

Do you need help with writing technical reports or industrial proposals? Of course you do! We can all improve our writing. Although there has been some improvement in recent years, technical reports and industrial proposals are still, all too often, badly written and lack the required impact. Very often they can be substantially improved without calling in expensive outside help.

Think about your own work – that last scientific report or industrial proposal that you wrote. How was it received? Did it make the impact it deserved? Did it win a contract or a new study? Or did it fail and, if so, why? Do you know? Have you tried to find out? Although there are many reasons for failure that are outside the control of the author, there is one which is very much the responsibility of the writer – the writing itself. And not just the stringing together of words, the grammar, spelling and punctuation, but the structure, the coherence, the presentation and the general impact it makes on the key readers. An outstanding industrial proposal or a brilliant piece of scientific work requires its brilliance to be communicated to the key decisionmakers on paper. If that communication is weak, the work of the scientists or engineers is wasted. That communication is vital. It must be more than correct. It must make the case unequivocally to decision-makers if they are to give you money. You must give yourself and your organisation the best chance possible of winning. Good writing will not save poor scientific work, but bad writing can destroy excellent work. Whatever the aim of the report or proposal, the underlying principles remain the same:

- Logical structure through coherence, comprehensiveness and concision.
- Clear language to promote clarity and readability, and to avoid obscurity and unnecessary length.
- Effective presentation through accuracy, clarity of results, relevant illustrations and structural signposts.
- Strong impact which will get the main messages across and give the reader a 'warm feeling' about the work.
- Detailed revision which will tailor the work more exactly to its purpose.

This guide, which amplifies these principles, was written in conjunction with the Royal Military College of Science with the aim of providing, for both technical and industrial writers, a clear, concise guide to the 'how', 'what' and 'why' of technical writing. It covers:

- Planning: organisation, schedules and readership.
- Structure: coherence, content and conclusions.
- Language: grammar, spelling, punctuation and style.
- Presentation: accuracy, format and illustrations.
- Revision: personal revision, team revision and red team reviews.

The chapter on planning and structure includes illustrative structures for technical magazine articles, short scientific reports, long technical reports and industrial proposals. It looks at titles, abstracts, executive summaries, introductions, results and discussion sections, conclusions and recommendations, appendices and annexes. It considers coherence and comprehensiveness. It examines how to plan complex documents, including authorship, co-ordination and timelines. Only when the planning has been done properly can the writing commence. And the writing is important. Sloppy writing suggests sloppy work, and ambiguous sentences sew confusion. Grammar, punctuation and spelling may be boring, but they provide the basis for clear communication on paper. The chapter on language advises on how best to construct sentences, on common grammatical difficulties and on 'rules' that aren't. It lists pairs of common words that cause confusion and suggests words to avoid, and it lists common words that are often spelt wrongly. It discusses the common uses of punctuation marks and how they are misused: the exclamation mark and question mark; quotation marks and capital letters; the comma, semi-colon, colon and hyphen; and that most abused mark of all, and the greengrocer's favourite – the apostrophe.

But writing is not just a case of getting the grammar, punctuation and spelling correct, for it is just as important to get the style right. Just as the tabloid newspaper style is

different from that of the broadsheet, so the style of the article for a technical magazine should differ from that of a factual report on a piece of scientific research, or the style of the executive summary from the technical annexes. Style is a combination of vocabulary, rhythm and colour, and the mix will determine whether your report will be read with interest or even read at all. Bad presentation can ruin otherwise excellent content. First and foremost, accuracy is essential because nothing undermines a technical report or proposal so thoroughly as inaccuracy. But there are other important points to consider. How many illustrations should you include and how do you select them? What about colour, typeface and print size? How best to index and reference? Above all, perhaps, how to deal with the acronym soup, that bane of technical writing? And the executive summary, on which all may hang how long, how detailed, how aimed? Finally, the book considers that most badly conducted task of all revision. This is a boring job, but it is vital. It is not just a run-through with a spell-checker: all aspects must be put under the microscope construction, language and presentation. It needs the objective eye of the outsider, which is why many companies assemble a team of insiders and outsiders to 'red team' their proposals. The concise aide-memoire at the back contains the key points of the book and useful lists and tables. With this in hand, there is no need to produce reports or proposals that undermine the intrinsic worth of the content. Clear writing that makes the right impact is not difficult to achieve; it just needs a little clarity of thought and adherence to some basic techniques.

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