



4c Template Case Studies

*The following is reprinted from a case study described in **Advanced Project Management**¹.*

Case Study 1 - ADVANCED TELECOMMUNICATIONS PROJECTS

[This] example of templating concerns an organisation that, in the course of its work, constantly needs to design and build new radio communications receivers. Although each receiver is built for a specific purpose, all receivers have the common configuration of a main mounting frame, power unit and printed circuitboard assemblies.

This organisation uses sophisticated modern software [4c] to house a library of templates. When each new project arises, it is only necessary to select the appropriate templates from the library browser. Then the computer automatically interfaces all the templates, 'draws' the network logic, carries out time analysis and finally performs full multi-project resource allocation.

The following is adapted from another case study cited in the same book.

Case Study 2

This example concerns a British company which always has a considerable number of special projects in hand to develop or modify major automotive components for a number of customers.

The product and the problem

The company's main product comprises five basic assemblies, each of which requires special design skills and considerable proving, through performance and safety tests, before it can be released to the customer. Typical projects range from a customer request that involves the design, testing and production of a complete unit modified from the existing design, through to the development from scratch of a completely new unit. At any time, this company might be undertaking well over 100 projects comprising a mix of new development projects and design change projects.

Such a large number of current projects would always pose a planning and scheduling problem of significant proportions but, in the case of this company, the situation is made more difficult by unpredictable customer-led changes in project scope, details and priorities. So, we have a very complex resource-scheduling problem, not made easier by the number of changes. Any solution has to be flexible to change, easy to administer and not too demanding in terms of planning effort.

The solution

The company found that the clue to its scheduling solution lay in the modular nature of the product itself. Over a period of several months, intensive brainstorming sessions were held with the company's top engineers to design a network template for each of the five components, plus performance and safety tests, and a standard template that would always interface with all or some of these modules.

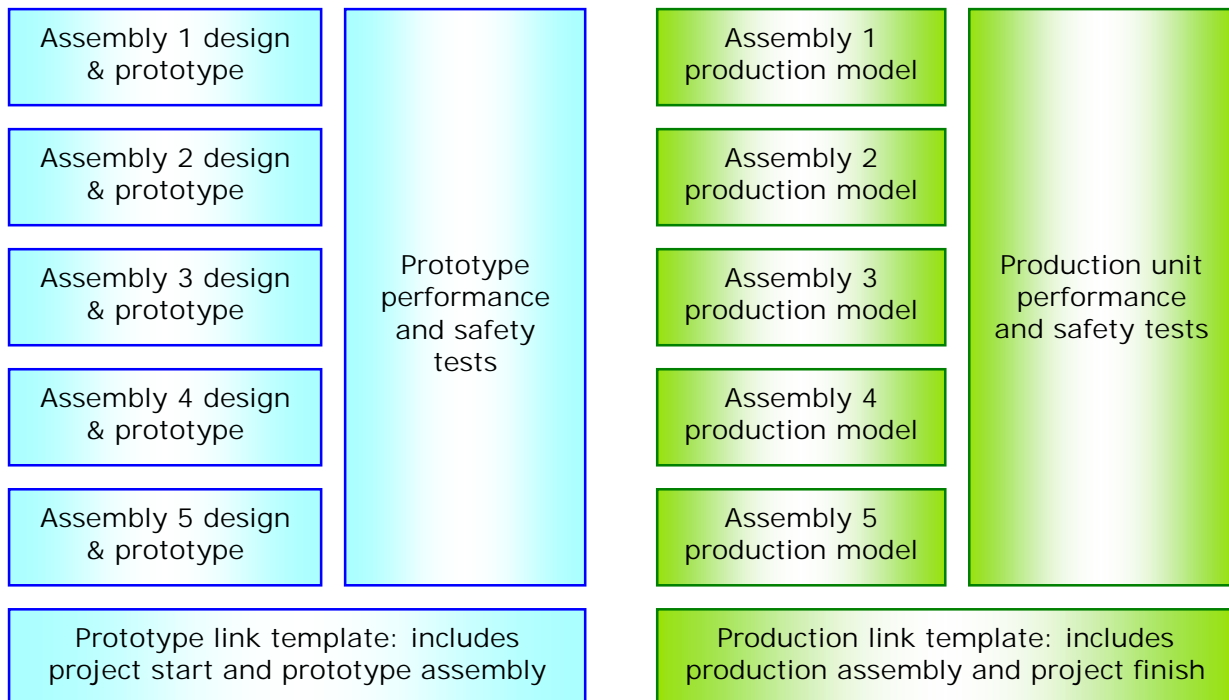
The whole collection of templates had to be designed twice – once for design prototype and then for the preproduction unit, made from permanent tooling. In addition to the network logic, each template was designed complete with activity durations, resource usage estimations and budget data. All these data had to be accommodated within the template library.

¹ Harrison, Frederick & Lock, Dennis: *Advanced Project Management – A Structured Approach*, 4th Ed., Gower Publishing 2004. e-mail: dennis.lock@ntlworld.com



Finding software that could handle such a library of templates and interface them automatically was a problem in itself, but this was largely solved using project management software from 4c Systems Ltd.

This is how the system works in practice. A very small planning and co-ordination group, headed by a specialist, administers the system and safeguards the integrity of the multi-project model. When a new project is authorised, the appointed project leader is shown a template map like the one in the diagram below:



The project leader ticks the templates that will be needed, according to the scope of the new project. For example, a project to modify an existing unit design by changing the characteristics of just one assembly, and then building and testing a prototype would need only the template for that assembly design plus the obligatory templates for performance and safety tests and the prototype link.

The planning specialist enters the new project into the multi-project model in the computer, where the complete project network diagram can be plotted immediately, simply by selecting the appropriate templates from the library browser. This first network is considered a draft, not having validity until it has been checked and, if necessary, amended by the project leader. It is possible with this system to have a new project fully and very effectively scheduled in the multi-project model within one hour of the project being authorised.

Further, because each template has been designed for the optimum process by the company's best engineers and managers, the resulting networks are free from errors and make the best use of this company's considerable expertise.

Conclusion

Using the techniques such as standard networks or standard templates can bring several advantages. Planning effort is minimized but the effectiveness of plans is optimised. There is no better way of recording and exploiting a company's retained expertise. The economic benefits can be very significant, with more (if not all) projects completed to specification, within budget and on schedule.