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DESIGNING A PROJECT TEAM

Bill Miles of Lorien Engineering Solutions explores project team building

Bill Miles is a mechanical engineer who has worked in manufacturing since 1970 – initially as a designer then as a project manager. For the past nine years he has been with Lorien Engineering Solutions Ltd as a Technical Consultant.

Major UK based manufacturing companies are undergoing 'headcount reduction' (downsizing), and the inevitable consequence is the loss of in-house specialist departments. The response to that situation is an increase in reliance on external organisations (consultancies, professional services and project management).

Companies that have always had an in-house capability to define, conceive and deliver projects are suddenly faced with harnessing external resources to achieve the project delivery. The way that this relationship is set up defines how the two organisations will interact, so this needs to be thought through very carefully.

Having grown comfortable with internal meetings and internal communications, the project needs and musts are now transmitted via a Procurement Department and operational style is now enshrined in a contract. Design tweaks are suddenly trumpeted as Contract Variations and anything other than a firm hand on their management will lead to discord – this is where people spend too much time defending a corner, and project focus is lost.

There are three options with tethering these external resources:

1. Define the project with a tight URS, employ designers to translate the URS, and then select a contractor to build the design

They work FOR you

2. Define the project with a tight URS, then employ a designer/contractor to handle everything as a 'Design & Build'

They work FOR you

3. Select an engineering partner to undertake the development of the URS, work-up the Design and Project Manage the project execution. To mitigate the loss of competitive tendering, all costs are managed on an 'open book style'.

They work WITH you

Within those three options is another layer of decision-making – in putting your ideal project team together, would you:

- Appoint a large organisation that has most of the skills in-house, and allow them to augment that capability with the missing skills;
- Appoint a collage of companies to make the complete operational jigsaw.

Faced with these options, most people will award their 'big project' to the large organisation, and will default to self assembling the team for smaller projects. So, why the different approach? After all, most of the dynamics are the same. Regardless of project size, the needs are:

- A clear, well defined brief with full sign-up by all participants;
- A detailed budget that will support the endeavour;
- A clear idea of the key dates – again with full sign-up;
- Strong management of :
 - The design process
 - Regulatory Compliance
 - Procurement
 - Installation
 - Commissioning
 - Training and Handover

Within our own organisation, the criteria for assembling teams are:

- Having the appropriately skilled people in-house;
- The availability of those people for the key programme periods.

The word 'appropriate' is very significant here, because if we return to the original choice, the assumption is that a large organisation is bound to have the appropriate skills, so appoint with confidence, whereas since smaller companies have fewer people, you have to choose the

people first. But then you really should be doing that with large companies. So there you have it – the best project teams are made up of appropriately skilled people. You knew that...we all knew it – so why the *small versus big debate*?

One of our earlier KPIs was strong management. Again there is an urban myth that says *choose a big company, and you'll get a big project manager*. Not necessarily true – and dealing with smaller organisations will often provide project management capabilities of at least equal standing. The quality of the project manager, and project support systems is key, not the size of the company.

I've always held the view that the jigsaw approach to project resourcing is flawed because:

- It is rare to find two companies who's operating systems match, so getting four or five is a tall order – this exacerbates the difficulties in managing the interfaces;
- It is unusual to find everyone using the same issue of CAD – sometimes an interface issue;
- However good the project brief, and however well it is orchestrated by the project manager, people will still interpret things to match their own expectations – this means that their expectations of each other are also open to interpretation – “*We thought you were handling that element?*”

In the end, the problem resolves itself – assemble your team from one organisation because:

1. You will have appropriately skilled resources;
2. They will be using common business systems;
3. They will be used to working with each other;
4. There will be just one Project Charter and one Project Manager;
5. The company size follows the above logic – regardless of its market visibility, its size will be appropriate.

The most critical part of any project endeavour is the definition (the URS), and here there is a merit in using an external resource. The majority of projects are driven either by a new product or by the need to increase production of a maturing product. In both instances the issues associated with scaling-up an operation are involved. The ability to bring a broad band of skills to bear on this stage, together with the mechanism of challenging and testing the validity of the raw data is an area where multi-disciplined organisations add considerable value.

The progressive scale-up of any process tends to highlight where each element of the existing installation runs out of capacity - and in what order. In a recently completed Front End Study, the scheme was to augment capacity and needed to take account of the expansions/alterations planned for other products in other areas. Most organisations keep the scope of the Front End Study focused just on the new product – this is partly out of thrift, and partly driven by the fear of exposing the whole business profile to an outside company.

In a sense, this is a lost opportunity as the FES can be a very strategic tool – looked at another way, it is a good case for using an engineering partner as opposed to contractors.

Let's take one last look at that word 'appropriate'. The larger project organisations depend heavily on contract resources – this allows them to flex their headcount in line with workload, and to lower their risk on overheads. Within our own organisation, we feel that using permanent staff delivers a better outcome. At the end of any project, our engineers and project managers return to 'base camp', and they bring their accumulated learning with them.

Lorien has always had above 72 per cent of its work from previous customers. Last year that figure crept above 90 per cent, which means that the vast majority of our staff were very much in tune with our clients, their business pressures, their preferred methodologies and their operational mindset.

So let's summarise – I strongly believe that you will have the best possibility for a well delivered project if:

- You select the engineering partner approach, where the partner has a broad range of in-house skills;
- You make sure that they rely on permanent staff – this means that all of their accumulated learning is ploughed back into your operation.

"I've been doing this for nearly forty years – and it works!"