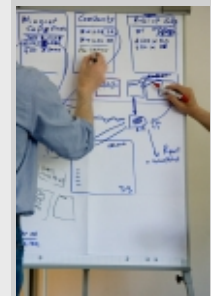


On the costing trail

Project Management office plans the future of the cost estimate

Hamburg isn't exactly known for its good weather and hours of sunshine per year. So when the sun is out and nature is exploding with spring leaves and early summer blossoms, Hamburgers go to every length to spend those precious times outside. Spending a day in a conference room darkened for better presentations, hunched over microphones to listen to colleagues at the other end of the world doesn't normally rank high on the list of things to do in Hamburg when the weather is nice. Nevertheless one of the participants of last week's cost management meeting described their three days as "very enjoyable", meaning it. One has to work on the ILC to appreciate the spirit...

For the Reference Design Report, the ILC community produced a detailed cost estimate for the machine. Another such estimate stands at the end of the project's next phase - only it has to be even more solid, better documented and ideally also lower. "We need to take ownership and control over the cost estimate of the machine," explains project manager Nick Walker from DESY. The plan is to centralise all the available cost info immediately to understand where the numbers come from and find the right format to take them to the next complete estimate. "The key is traceability," says John Carwardine, one of the roughly ten members of the team made up of the project management office and former RDR cost engineers. "We cannot afford to lose the information behind the RDR costing numbers, and we'll need to put systems in place to help capture traceability of the TDR cost estimates."



Flipcharts, spreadsheets and debates – the cost management group met at DESY in May.

The team looked at five specific areas of the cost estimate as examples, in part to begin developing processes for drilling down the cost estimates and for evaluating potential cost reductions. Amongst a detailed look at magnets, the positron source system, excavations for tunnels and caverns, and High-Level RF all chosen for a different reason (detailed information available, no detailed information available, great cost reduction potential, small cost reduction potential and so on) the team also untangled the cost of the water cooling. The cooling system is expensive, and changing the design criteria could reduce the cooling system price tag significantly from the start. So how much water does it take to cool the RF and other systems? Apparently this depends on how much you let it warm up. "Using small pipes and very little water could help," explains Nick Walker. "With the experts connected by webex, we worked through how changes in the system would influence the cost. It was a very methodical approach and a good exercise." The team also discussed approaches for managing and analysing the cost data and for understanding the cost impact of possible design changes.

Another central goal of the meeting at DESY was to find a way to increase formality for the estimate to ensure consistency in the format the cost is presented. "We basically want to prepare ourselves for a DOE-style cost review," says project manager Marc Ross. All this will be done with the help of a consultancy company. "Our meeting also prepared the ground for working with that company. We tried to ask ourselves the questions we might ask them, or that they might ask us. Their job will be to help us find a tool that will let us extract costing information that is fully traceable."



Marc Ross and Nick Walker listening to Tom Himel's presentation.

Every member of the team left with some homework at the end of the meeting. All have been assigned a technical area of the RDR cost estimate. The goal: to reconstruct the area-specific cost as far down as possible, drilling down through the available documentation, without having to ask the experts. They will get together at the GDE meeting in Dubna in June to compare their results.

-- Barbara Warmbein