

In This Issue



In one way or another, many of the articles in this issue of *ASK* are about the importance of seeing the big picture.

It is all too easy to become so immersed in the immediate technical or administrative demands of a project, in today's crisis, in e-mails and phone messages clamoring for responses, or in the particular challenges of your specific task, that you lose sight of the larger aims of all this work—and lose sight, too, of the resources, help, and creative solutions lying just outside your field of vision. Sometimes a focused, heads-down effort is necessary to solve a knotty problem; more often, raising your head to look at the big picture leads to the best answers, even to technical problems.

More than once on the Cassini-Huygens project (“Cassini-Huygens: International Cooperation for Astronomical Achievement”), for instance, the ability of team members to take a step or two back from apparent conflicts between opportunities to do science and budget constraints and between the plans of different groups of scientists opened the door to approaches that satisfied everyone and ensured a rich flow of science data from the mission. That project offers proof of Ed Hoffman’s claim that every successful project’s achievements depend on creative inspirations—both managerial and technical—not found in textbooks or policy documents. In “Fostering Innovation: Necessity Is the Mother of Invention,” Hoffman argues that space flight success has demanded and continues to demand innovation, and that we therefore need to be intentional about fostering creativity. Part of that effort, he suggests, involves encouraging collaboration and open dialogue—ways of getting a broader view, a bigger picture, than any solitary individual can have. The new risk management system being used on the Solar Dynamics Observatory project applies this idea to risk management by making it everyone’s responsibility and mandating regular meetings where people identify risks and devise mitigation plans. William Gerstenmaier’s “The ‘Fifth Dimension’ of Program and Project Management” recommends a big

picture view that includes the “politics” of a project, by which he means the perceptions and expectations insiders and outsiders have that are likely to influence the support and recognition a project gets at least as powerfully as its technical achievements.

Big picture thinking extends beyond the boundaries of projects to the long-term needs and goals of the Agency. So Gus Guastaferrro (“Leaders’ Responsibility to Develop Future Leaders”) writes that project and program managers should look beyond project success (as essential as that is) and concern themselves with developing the careers of their most promising team members, fostering the talent future programs will draw on. Some of that development comes through courses; much of it comes from being trusted with challenging new responsibilities. In the interview, Rex Geveden describes how both of those ways of learning played a role in his development, and especially how much he gained from his responsibility for Gravity Probe B, a project noted for extremely complex technical and managerial challenges. (See also, “Gravity Probe B: Testing Einstein...with a Management Experiment?”)

Goddard’s program for training systems engineers (“Goddard’s SEED Program: Growing Systems Engineers”) also looks to NASA’s future needs for talented and experienced project leaders. And, since the heart of systems thinking is to look at the relationship of parts to the whole, it is all about giving participants a big picture perspective. The job of systems engineers is to understand how interdependent system elements influence one another—to look at them in the context of the big picture.

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