

## The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology

### *Where Are All the Women?*

Labor shortages in SET fields are worsening. Employers wring their hands over talent shortfalls. “Scramble for Scientists: Shortages threatens to Slow Growth of Booming Biotech Industry” screams one headline. Not so long ago employers could turn to foreign born engineers and scientists to fill their skills gap. This is no longer possible. Post 9/11 security concerns have reduced the number of H-1B visas. And rapid growth in Asia has created a reverse brain drain of highly qualified scientists and engineers returning home.

So what to do? Companies should focus on the female talent in their own back yard.

*The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology*— a new study sponsored by Alcoa, Cisco, Johnson & Johnson, Microsoft and Pfizer, to be published in June as an article and Research Report by the *Harvard Business Review* — is the first to “map” the career trajectories of women with science, engineering and technology credentials working in the private sector. This research allows us to measure the huge potential of female talent in SET fields. It also creates a blueprint for action—showcasing 14 new initiatives that re-align corporate cultures and re-design career paths so as to better fit the needs of SET women. It’s high time we tried to “fix” business, rather than continuing to attempt to “fix” women.

### **Key Findings**

- **Rich Talent Pipeline.** 41% of highly qualified scientists, engineers and technologists on the lower rungs of corporate career ladders are female — a talent pipeline that is surprisingly deep and rich. Despite the challenges girls face at school and in our culture, a significant number make the commitment to begin careers in science.
- **Fight or Flight.** Across SET women hit a break point in their mid- to late-30s. Career and family pressures ratchet up at one and the same time. The losses are massive: over time, **52%** of highly qualified SET women quit their jobs. Stepping in with targeted support before this “flight or fight” moment has the potential of lowering female attrition significantly.
- **Antigens and other Barriers.** Five powerful antigens in SET corporate cultures help explain the female exodus. Women are seriously turned off by: **hostile macho cultures, severe isolation, mysterious career paths, systems of reward that emphasizes risk-taking, and extreme work pressures.**
- **Cutting Edge Models.** New initiatives like WOVEN (Alcoa), Crossing the Finish Line (J&J), Mentoring Rings (Microsoft), ETIP (Cisco) and Restart (G.E.) are game changers that will allow many more women stay on track in SET careers.

The potential gains are huge. Reducing female attrition by one quarter would **add 220,000 qualified people** to the SET labor pool. Given the tight labor market in SET fields, this is good news indeed.