

## Project Characteristics

*The majority of the first 50 completed projects were led by small businesses, who submitted proposals to ATP as single-company applicants. Almost all of them had collaborative relationships with other firms and universities. Nearly all were funded in ATP's General Competitions. More than one-third of the technologies were classified as "electronics, computer hardware, or communications." ATP and industry shared the \$208 million in total project costs about equally.*

### Single Applicants and Joint Ventures

Eighty-four percent of the 50 projects were "single-applicant projects." This means that a single company proposed the project, and that it was subject to an upper limit on ATP funding of \$2 million and a time limit of 3 years.

The dominance of single-applicant projects occurs for two reasons. First, single-applicant projects make up the majority of all projects. Second, the constraint on single-applicant project length means they end sooner than most joint ventures.

Sixteen percent of the 50 projects were joint ventures. Each of these projects had a minimum of two for-profit companies sharing research and costs. Typically, the joint-venture membership included other organizations, such as other for-profit companies, universities, and nonprofit laboratories. These projects, free of the funding constraint, tended to take on larger problems for longer periods of time.

### Project Leaders

The high percentage of small companies tends to result from a high percentage of single-applicant projects, most of which are led by small businesses. Thirty-one of the 42 single-applicant projects, among the 50, were led by small businesses. "Small" is defined according to the Small Business Administration's definition and includes companies having fewer than 500 employees.

Medium-sized companies led 3 of the 42 single-applicant projects. Large companies—defined as Fortune 500 or equivalent firms—led 6. Nonprofit institutions led 2.<sup>8</sup>

Of the 8 joint-venture projects, small companies led half of them. A large company led 1. Industry consortia led the other 3.

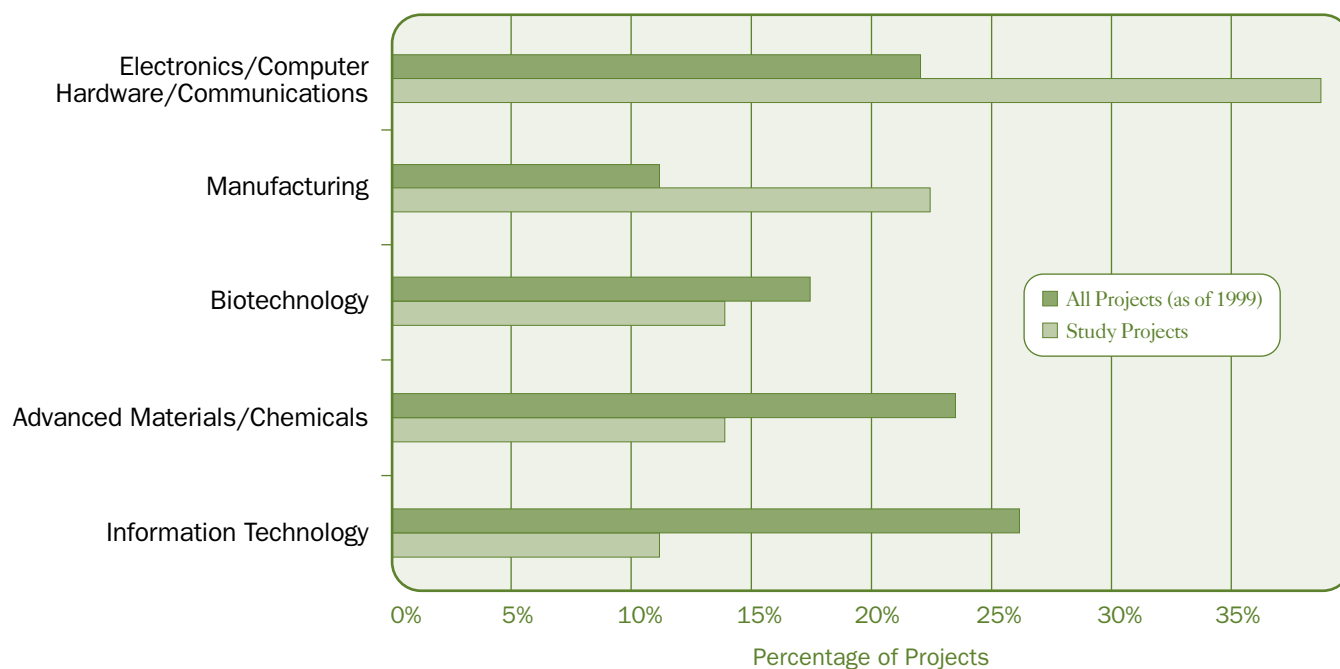
### A Variety of Technologies

The 50 completed projects fall into five different technology areas used by ATP for classification purposes. Figure 1, the lower of each pair of bars, shows the percentages of completed projects by technology area. The highest concentration, with 19 projects and 38 percent of the total, is in Electronics/Computer Hardware/Communications. Manufacturing follows with 11 projects, comprising 22 percent. Biotechnology and Advanced Materials/Chemicals each have 7 projects or 14 percent each. The lowest concentration is in Information Technology, with 6 projects or 12 percent.

For comparison purposes, Figure 1.1, the upper of each pair of bars, shows the distribution across the same five technology areas for 468 projects awarded through 1999. For the portfolio of ATP projects, Information Technology makes up the largest share of projects, followed by Advanced Materials/Chemicals.

<sup>8</sup> Nonprofit institutes were eligible for funding as single applicants in the first two years of the program, before Congress changed the provisions to make them ineligible. Two nonprofits, Michigan Molecular Institute and Microelectronics Center of North Carolina, received awards in ATP's second competition.

**Figure 1.1 Distribution of Projects by Technology Area**



Projects classified as Electronics/Computer Hardware/Communications and Manufacturing are more strongly represented in the set of 50 completed projects than in the portfolio of all ATP projects, while the other three categories—particularly Information Technology—are under-represented. Differences in the technology make-up of the 50 study projects and the larger ATP portfolio of projects largely reflect the changing composition of applicants and awardees over time. Nearly all of the 50 first-completed projects come from ATP’s general competitions that were open to all technologies. A substantial part of ATP’s total portfolio comes from the focused program competitions that were held from 1994 through 1998. These competitions funded technologies in selected areas of focus.

Since successful information technology projects tend to progress faster than some of the other technology areas, it is possible that a set of projects more reflective of ATP’s overall technology distribution would show more progress than the current set of 50.

### Collaborative Activity

Although only 16 percent of the 50 projects were joint ventures, 84 percent had collaborative arrangements. As shown in Table 1, nearly half the 50 had close R&D ties with universities, and more than half the projects formed collaborative arrangements to pursue commercialization.<sup>9</sup>

**Table 1. Collaborative Activity**

| Type of Collaboration  | Number of Projects | Percentage |
|--|--------------------|------------|
| Collaborating on R&D with other companies or nonuniversity organizations                                     | 21                 | 42%        |
| Close R&D ties with universities   | 24                 | 48%        |
| Collaborating on R&D with other companies or nonuniversity organizations OR close R&D ties with universities | 33                 | 66%        |
| Collaborating on commercialization with other organizations  | 27                 | 54%        |
| Collaborating in one or more of the above ways   | 42                 | 84%        |

### Duration of Projects

The median length for the 50 projects was three years. Half of the projects lasted 33 to 36 months. Another group clustered around the two-year mark. Five joint-venture projects lasted longer than 36 months.

### Costs of the Projects

As shown in Table 2, ATP and industry together spent a total of \$208 million on the 50 projects. They shared almost equally in the costs. The ATP spent an average

<sup>9</sup>This assessment of collaborative relationships likely understates the number because it focused on the project’s lead organization and probably missed some of the informal collaborative relationships of other participants.

of \$1.5 million per single-applicant project and an average of \$4.9 million per joint-venture project. Across the 50 projects, the average total cost (ATP plus industry) per project was \$4.2 million. (Funding amounts and cost-share percentages are displayed project by project in Chapters 2 through 6).

**Table 2. ATP Funding, Industry Cost Share, and Total Costs of 50 Completed Projects**

| Type of Project                   | Single-Applicant Projects | Joint-Venture Projects | All Completed Projects |
|-----------------------------------|---------------------------|------------------------|------------------------|
| ATP Funding (\$ Millions)         | 64.5                      | 39.5                   | 104.0                  |
| Industry Cost Share(\$ Millions)  | 57.0                      | 47.0                   | 104.0                  |
| Total Project Costs (\$ Millions) | 121.5                     | 86.5                   | 208.0                  |
| ATP Share of Costs (Percent)      | 53                        | 46                     | 50                     |
| Industry Share of Costs (Percent) | 47                        | 54                     | 50                     |

Most of the single-applicant projects had total research costs under \$3 million, and an ATP share between \$1 and \$2 million. Twelve percent had total costs in excess of \$5 million. The ATP funded 53 percent of the total cost of the 42 single-applicant projects.

Nearly half of the joint ventures received \$2 to \$5 million from ATP, and all but one received less than \$10 million. Nearly three-quarters of the projects had total costs (ATP plus industry) between \$5 and \$20 million. Joint ventures, which comprised only 16 percent of the total number of projects, accounted for 38 percent of total ATP funding.