ATP’s Investment in Component-Based Software Technology Generates Large Economic Benefits

Component-Based Software Development

- Component-Based Software is a relatively new software production paradigm that focuses on building large software systems from readily available components.

- The goal of component-based software is to reduce the cost of developing software systems while increasing software reliability and interoperability.

- Between 1994 and 2000, ATP funded 24 projects in this emerging field.

Project Outcomes

- 18 projects were completed; 2 were still underway at time of study, 4 failed to complete.

- Two out of three projects funded produced commercial products.

- Almost four out of five projects were led by startups or small firms.

National Economic Benefits Are Large

The investments were highly successful from a social perspective. They yielded actual and projected benefits estimated at $1.5 billion on the combined ATP (public) and private investment of $93 million. Private investment included substantial post-ATP industry funding for product development.

- Total Net Benefit to the nation\(^2\)
  - Net Present Value (year $2000) $840 million

- Benefit to the nation of every dollar invested
  - Benefit-cost Ratio 10.5

- Rate of return on investment to the nation
  - Internal Rate of Return 80%

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\(^1\) Recently published ATP contractor study -- Research Triangle Institute Benefits and Costs of ATP Investments in Component-Based Software (NIST GCR 02-834), November 2002. Research based on a conservative quantitative analysis, using estimated benefits from 8 of the 19 completed projects relative to costs incurred on all 24 projects.

\(^2\) These estimates represent total benefits to the nation (to the public and to companies funded) relative to ATP and industry investment costs.