

## Iowa's Research and Development Industries

### R&D and Iowa's Economy:

- Over \$1 Billion in R&D spending within Iowa (national rank: 32<sup>nd</sup> in 2006)
- Nearly 3% of Iowa's workforce in Science/Engineering
- Iowa in second quartile in patents awarded per 1,000 science/engineering jobs

### Research Credit Impact on Iowa R&D:

- \$40m in State RAC support for Iowa-based R&D
- \$13m in State RAC support for targeted supplemental R&D
- Business leaders say that "RAC keeps R&D in Iowa"

### The Importance of Research in Tough Times: Even the Deepest Downturns Present Opportunities for Companies with a Commitment to R&D

America's most successful companies almost always keep a strong commitment to R&D in tough times. A study of 24 leading US company's annual reports from 1928-1938 showed:

- **Douglas Aircraft:** despite severe drops in sales in 1931-1933, Douglas continued spending on new manufacturing plant equipment and on new aircraft including the DC-3, introduced in 1935.
- **DuPont:** despite a drop in sales volume of 67%, DuPont continued spending on R&D at virtually constant levels during the depths of the Great Depression. Many new products were developed including synthetic rubber (1931), nylon (1938) and virtually every annual report stressed the company's commitment to R&D.
- **International Harvester:** similar massive drops in sales did not dampen corporate commitment to R&D: "engineering research is of prime and increasing importance" leading to a new cotton picker in 1929 and the application of corporate reserves to spend \$967,000 on R&D in 1931, \$1,017,000 in 1932, and \$2,015,000 for 1933 through 1936 resulting in "a whole range of new products and exhaustive engineering research."
- **Eastman Kodak:** new research laboratories opened in 1930, employing 140 scientists and 500 scientists companywide despite sales dropping from \$20.1m in 1928 to \$12.2m in 1932. The 1932 annual report noted that "research [is] undiminished"; the 1936 report asserted "R&D to be effective must be maintained through good and bad years. The Company ... is now in a favorable position."
- **Firestone:** Their first reference to R&D was in 1932, when they introduced a variety of new products including tires, batteries, spark plugs and auto accessories. In 1934, they highlighted over 400 new mechanical products from their "large laboratories and engineering department". This commitment continued each year through 1938.
- **IBM:** one of the few companies to show "development and patent expense" on their income statements, IBM experienced drops in sales in 1932 and 1933 but increased R&D in each year except for 1931 and 1936. In 1932, Chairman Watson announced spending the large sum of \$1m to build the Endicott Research Laboratories. This development paid off with steadily growing sales after 1933.
- **Union Carbide:** While Union Carbide cut capital spending in 1931-1933 and 1938, each annual report stresses the importance of R&D: 1930 mentions the "extensive research and sales development organizations"; 1934 and 1935 stress the importance of R&D; and 1938 highlights record patent applications.