

The research-development program was reported by industry as totalling almost \$66,000,000 in 1955 and was estimated at close to \$80,000,000 in 1956. By far the major part of the work in 1955 was conducted within the companies themselves and accounted for \$52,000,000. An additional \$12,000,000 was spent for research-development done outside Canada, the bulk of which was in the United States. The remaining \$2,000,000 was spent for research done by other companies in Canada.

### 1.—Research-Development Expenditures by Industry 1955 and 1956

Industry	Research Expenditures 1955	Estimated Research Expenditures 1956	Increase or Decrease
	\$	\$	p.c.
Mining, quarrying and oil wells.....	3,045,624	3,619,300	18.84
Manufacturing—			
Foods and beverages.....	1,705,727	1,779,122	4.30
Rubber products.....	2,719,839	2,997,234	10.20
Leather products.....	156,900	169,500	8.03
Textile products.....	1,160,969	1,294,820	11.53
Wood products.....	94,815	87,500	- 7.72
Paper products.....	4,049,008	4,595,425	13.50
Iron and steel products.....	3,088,257	3,297,120	6.76
Transportation equipment.....	16,553,409	22,771,645	37.56
Non-ferrous metal products.....	4,530,242	5,109,200	12.78
Electrical apparatus and supplies.....	10,780,204	11,896,124	10.35
Non-metallic mineral products.....	1,101,488	1,073,927	- 2.50
Products of petroleum and coal.....	4,704,498	5,653,883	20.18
Chemical products.....	7,844,984	10,135,587	29.20
Other manufacturing <sup>1</sup> .....	297,500	518,400	74.25
Transportation, storage, communication and public utility operations..	3,350,609	3,371,900	0.64
Other non-manufacturing <sup>2</sup> .....	701,542	934,060	33.14
<b>Totals.....</b>	<b>65,885,615</b>	<b>79,304,747</b>	<b>20.37</b>

<sup>1</sup> Includes tobacco and tobacco products and miscellaneous manufacturing services, engineering and scientific services and trade associations.

<sup>2</sup> Includes construction, health services, engineering and scientific services and trade associations.

The following estimates of research-development in the various fields of activity in 1955 show that mechanical engineering, chemistry, chemical engineering, electrical engineering and metallurgy together accounted for 86 p.c. of the total. Expenditures in the chemistry and the chemical engineering fields, which are closely related, accounted for almost one-third of the total. Every industry reported some activity in the chemical research field and in at least one phase of engineering research.

### 2.—Research-Development Expenditures by Field of Research 1955

Field of Research	Amount	Field of Research	Amount
	\$		\$
Chemistry.....	13,370,558	Electrical engineering.....	13,777,617
Physics.....	3,066,917	Mechanical engineering.....	16,136,820
Geology.....	733,969	Other engineering.....	1,309,189
Medicine.....	1,454,999	Metallurgy.....	5,611,277
Agriculture.....	517,165	Other.....	1,294,263
Biology.....	471,144		
Chemical engineering.....	7,601,550		
Civil engineering.....	540,147	<b>Total.....</b>	<b>65,885,615</b>