

**UNECE****United Nations Economic Commission for Europe**

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Geneva, 17 October 2003

**Italy is Europe's second and the world's fourth largest
user of industrial robots
Robot investment is projected to grow at an annual rate
of 5% in 2003-2006**

After record investment in 2001 a temporary slow down in 2002...

An unprecedented growth in robot investment took place in Italy between 1994 and 2001: the market showed continuous growth from 2,400 to a record 6,400 new robots being installed (see figure 1). This came to a temporary halt in 2002 when the market fell by 14%. The stock of industrial robots, however, increased by 7% to almost 47,000 units.

For the period 2003-2006, the market in Italy is projected to grow by a yearly average of 5%, which would result in a robot stock of over 62,000 units. As order intake of industrial robots placed by European customers increased by as much as 25% in the first half of 2003, compared with the same period in 2002, reaching the highest level ever recorded, this forecast might very well be far too conservative.

Italy has the world's second highest robot density

For every 10,000 persons employed in the Italian manufacturing industry at the end of 2001, there were 109 industrial robots, which puts Italy ahead of all countries except Germany, disregarding Japan which includes all types of robots and not just general purpose robots in the statistics (see figure 2). In the motor vehicle industry there are as many as 1,130 robots per 10,000 production workers, more than in any other motor vehicle industry, with the possible exception of Japan whose statistics are not comparable (see figure 3).

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Robot prices are down, labour costs are up...

Between 1990 and 2002, prices of industrial robots fell from index 100 to 63, without taking into account that robots installed in 2002 had a much higher performance than those installed in 1990 (see figure 3). If quality changes had been taken into account, it was estimated that the index would have fallen to 32. In other words, an average robot sold in 2002 would have cost only about a third of what a robot with the same performance would have cost in 1990 if it had been possible to produce such a robot in that year. In the last few years, however, the price decline has levelled out.

At the same time, the index of labour compensation in the Italian business sector increased from 100 to 157. This implies that the relative prices of robots fell from 100 in 1990 to 40 in 2002 without quality adjustment, and to 20 when taking quality improvements into account.

Machining and welding are the largest application areas...

With 28% of total 2001 sales, machining was the largest market segment, followed by welding with 21% of the market and plastic moulding with 20%.

The chemical industry and motor vehicle industry dominate the use of robots...

In 2001, the largest market was the chemical industry with 39%, followed by the motor vehicle industry with just under 39% of total sales. The fabricated metal products industry was the third largest market with a share of 9%.

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| <p>For the global development of industrial robots and service robots, see a parallel press release (ECE/STAT/03/P01) issued on the same day as the present one.</p> |
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Figure 1a. Estimated operational stock of robots at year-end and shipments

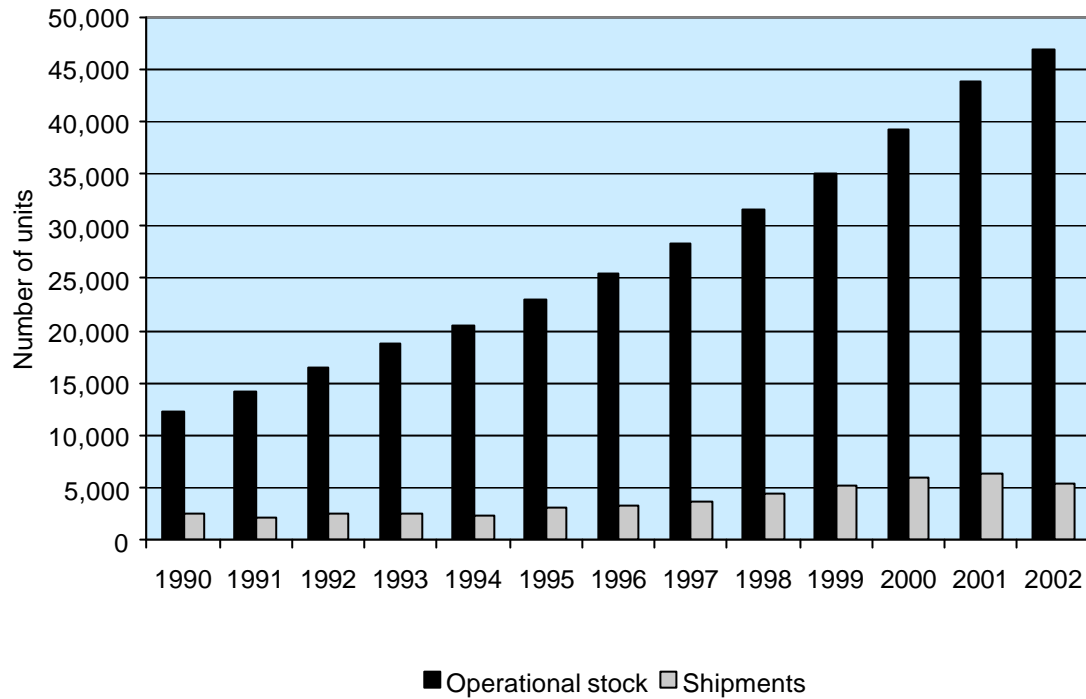
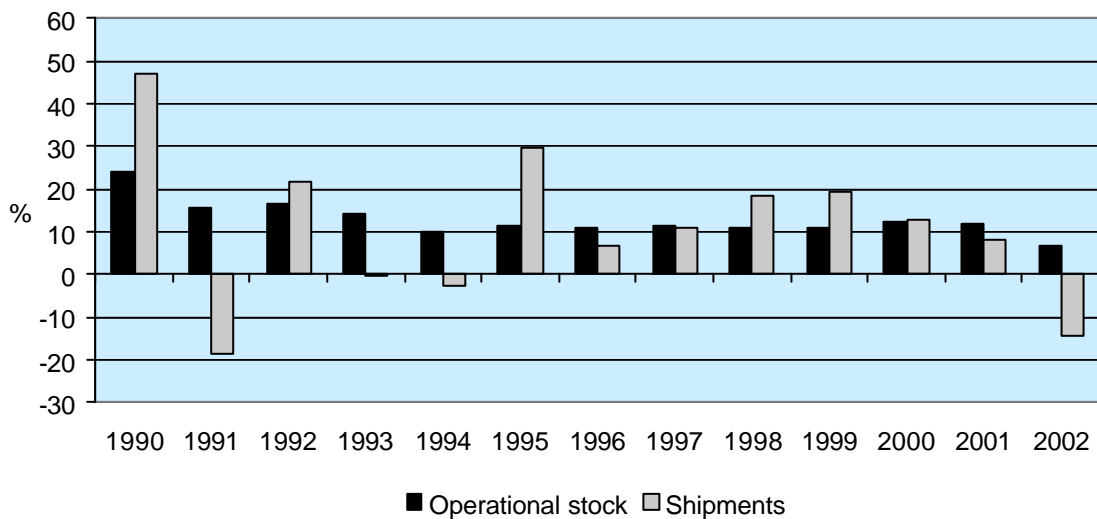


Figure 1b. Yearly percentage change in estimated operational stock and in shipments



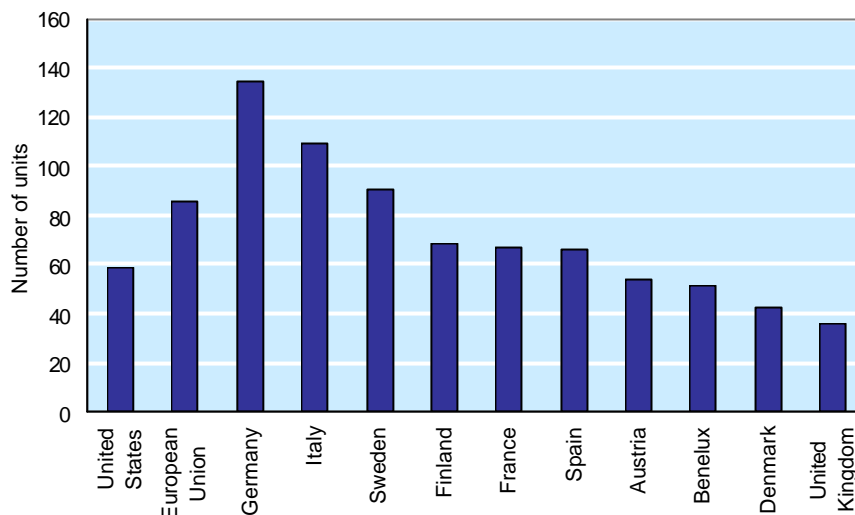
| | 2002 |
|-----------------------|-----------|
| Japan a/ | 308 |
| Rep. of Korea b/ | 128 |
| United States | 58 |
| European Union | 86 |
| Germany | 135 |
| Italy | 109 |
| Sweden | 91 |
| Finland | 68 |
| France | 67 |
| Spain | 66 |
| Austria | 54 |
| Benelux | 51 |
| Denmark | 43 |
| United Kingdom | 36 |
| Australia | 33 |
| Norway | 21 |
| Portugal | 9 |
| Czech Rep. | 8 |

Sources: UNECE and IFR.

a/ Up to and including 2000, data for Japan include all types of robots. As from 2001, data exclude dedicated robots, except for dedicated machining robots. As from 2001, Japanese statistics are therefore much more comparable with those of other countries.

b/ All types of industrial robots.

Figure 2. Number of robots per 10,000 persons employed in the manufacturing industry in 2002



| | 2001 | 2002 |
|----------------|-------|-------|
| France | 540 | 630 |
| Germany | 890 | 1,000 |
| Italy | 1,010 | 1,130 |
| Japan | 1,600 | 1,700 |
| Spain | 670 | 760 |
| Sweden | 540 | 570 |
| United Kingdom | 520 | 550 |
| United States | 690 | 770 |

Sources: UNECE and IFR.

Figure 3. Number of robots per 10,000 production workers in the motor vehicle industry, 2001 and 2002

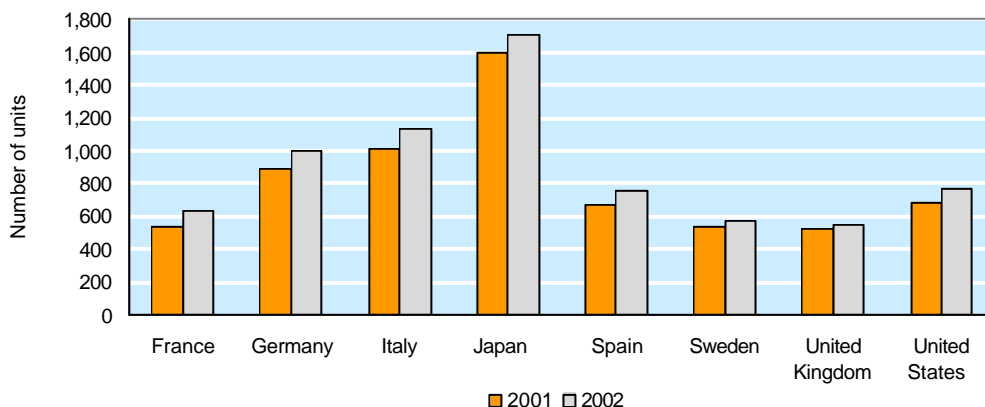
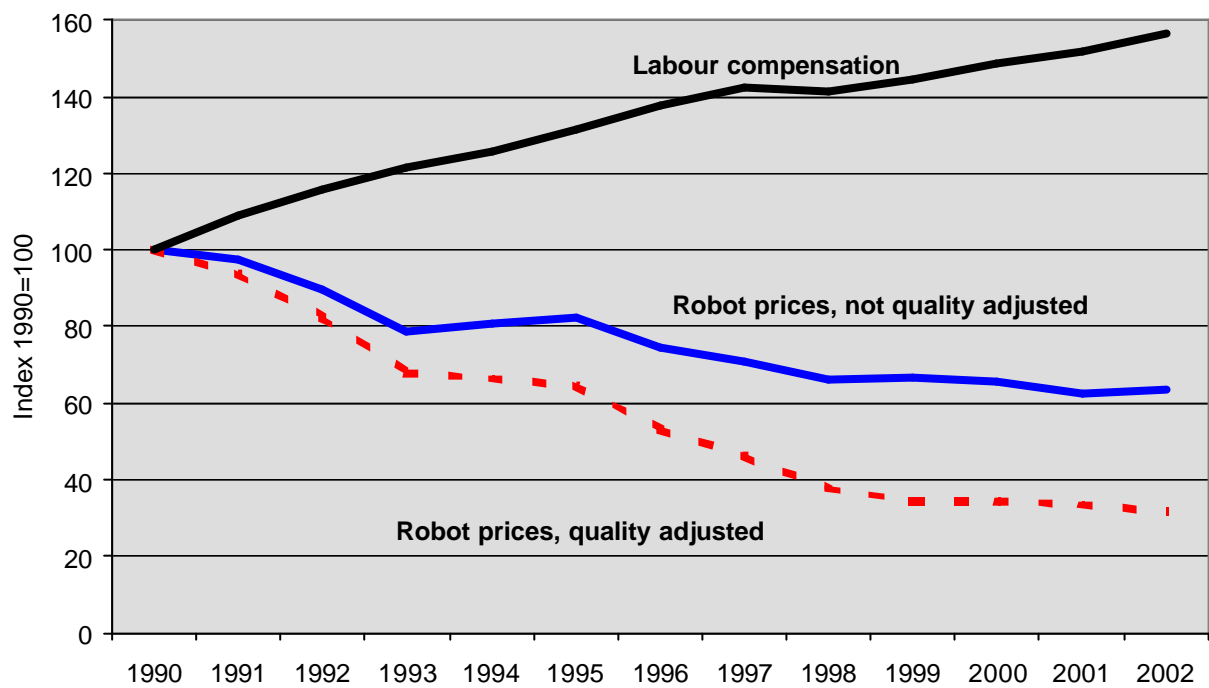
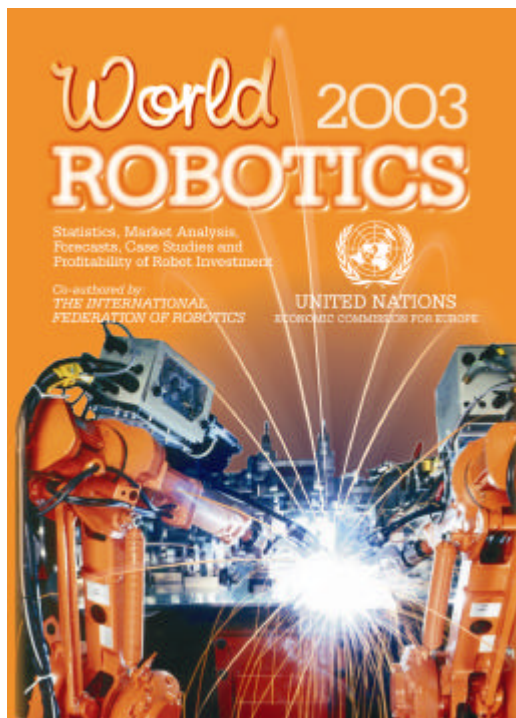


Figure 4
Price index of industrial robots in Italy, with and without quality adjustment. Index of labour compensation in the Italian business sector



The publication **World Robotics 2003 – Statistics, Market Analysis, Forecasts, Case Studies and Profitability of Robot Investment** is available, quoting Sales No. GV.E.03.0.16 or ISBN No. 92-1-101059-4, through the usual United Nations sales agents in various countries or from the United Nations Office at Geneva (see address below), priced at US\$ 130:



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