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## **Analysis of Trends in Technology Imports**

Status of technology imports and technology-related imports based on  
Foreign Exchange and Foreign Trade Control Law  
(including "software" and "trademarks")

-- 1996 Fiscal Year --

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### **Summary**

#### 1. Introduction

This survey has compiled Japan's foreign technology import records for FY 1996 and analyzed the country's recent technology import trends.

The survey report consists of three parts: Part 1 "Analysis of Trends in Imports of Foreign Technology to Japan", Part 2 "Analysis of Trends by Technology Format" and Part 3 "Statistical Tables". Part 1 analyzes the characteristics of technology imports in terms of technological classification, regions/countries of origin, contract conditions, etc. Part 2 classifies technology imports into three classification, that is "software", which accounts for half of all technology imports, "trademark only", whose nature is fundamentally different from other technology forms, and "hardware technology", which includes all technology

imports not classified as either of the above two forms. Part 3 compiles various statistical data.

Data compilation and analysis on imported technologies was undertaken based on "Reports on the conclusion (amendment) of technology import agreements" (hereinafter referred to as "reports etc.") filed in accordance with the "Foreign Exchange and Foreign Trade Control Law" (hereinafter referred to as the "Foreign Exchange Control Law").

## 2. Principal Survey Results

1) The number of new technology import agreements hammered out in 1996 stands at 3,145, which represents a decrease of 19% (756) from the previous fiscal year. In terms of the forms of technology (hardware technology, software and trademark only), "software" accounts for 1,621 agreements, or about 52% of the total, which is in line with the ongoing trend given that the share of "software" has been hovering around 50% over the last five years. "Hardware technology", on the other hand, accounts for only 1,051 agreements or 33% of the total, and has been on the decline since FY 1992. The difference between "software" and "hardware technology" import volumes has been gradually widening since FY 1991. The volume of "trademark only" imports has fallen.

2) By country of origin, technology imports from the U.S. stand out, accounting for 1,902 agreements or about 60% of the total, followed by the U.K., France, Germany and Switzerland. Although the share of the U.K., the second ranking country of origin, stands at 13% (407 agreements), this figure is inflated by agreements relating to specific trademarks. If these are excluded, the share comes down to a more realistic 7.7% (242).

The U.S. dominates in all technology forms, particularly in "hardware technology" and "software", where the country accounts for 50-70% of the total.

With "trademark only", the U.K. has a 40% share, but, if specific trademarks are excluded, its share falls to a mere 11% (34 agreements).

While the U.K. has substantial shares in all technology forms, technology imports from Germany and France tend to be concentrated in "hardware technology" and "trademark only", respectively. Technology imports from Asia have shifted to reverse gear in FY 1996.

3) By technological category (detailed classification), "computers" accounts for 1,618 technology import agreements or 51% of the total (down 8.3% in volume from the previous fiscal year), and the trend of computer-led foreign technology imports is continuing.

Other top ranking technological classification include "other textile and apparel products", "outer garments", "electronics parts and devices", "communications equipment", "medical supplies" and "other industries".

"Computers" is the No. 1 technological category in "hardware technology" imports, accounting for 110 agreements (10.5% of all agreements relating to this technology form), followed by "electronics parts and devices", "medical supplies" and "boilers and engines".

Most technology imports involving "software" are classified as "computers", so that the "computer-led" foreign technology imports trend can be characterized as a "soft-ware-led" technology import drive.

"Trademark only" technology imports are most common in "other textile and apparel products", "outer garments" and "textiles", but are also fairly frequent outside the textile area, namely in "computers" and "precision instruments".

4) Technology imports can be classified into the following technology types (numbers do not add up to 100, as some technology agreements involve two or more technology types):

"Patents" (including utility models and designs) 23.1% of all technology imports

"Know-how" 76.9%

"Trade marks" 28.4%

The high proportion of "know-how" is attributable to the fact that most "software" imports amount to the imports of know-how. The decline of "hardware technology" imports is more pronounced with "patents" than with "know-how". In the past, software imports only involved know-how, but agreements geared to the imports of "patents" and "trademarks" have recently been on the rise, with the number of agreements involving patents increasing dramatically in FY 1996. With "software", the number of technology import agreements relating to the acquisition of rights has fallen sharply in FY 1996, reversing the earlier trend.

5) By fee payment conditions, the number of agreements featuring initial payments, such as "initial payment only" has increased from 1,934 in the previous fiscal year to 2021. In contrast, the number without initial payments fell from 903 to 755 in real terms, i.e. excluding specific trademarks.

With "software", the proportion of "initial payment only" agreements is still high, and agreements involving initial payments are generally on the rise. "Trade mark only" agreements mainly accompany running royalties.

"Non-percentage rate" running royalties, such as set-amount rate royalties (where a predetermined amount is paid for each product item etc. as royalty), represent the most common type of running royalties with a 47% share, and this is attributable to the high frequency of the use of "non-percentage rate" running royalties" in "software" imports (68% of the time) and presence of fairly substantial specific trademark imports.

6) By contract term, the share of "1-5 years" stands at 32.0%, and this is attributable to the popularity of this range in "software" (35.2%) and "trade mark only" (45.0%) imports.

7) By capitalization level, companies capitalized at "10 billion yen or more" are dominant, but companies with smaller capitalization account for relatively large numbers of technology import contracts, even if specific trademarks are excluded, with the shares of "less than 50 million yen" and "100 million yen to less than less than 500 million yen" yen standing at only 227 and 287, respectively.

With "hardware technology", manufacturers with large capitalization tend to have large shares of technology imports, and leading industrial classification include "wired and radio communication equipment, electronic equipment and electric measuring instrument manufacturing (hereinafter referred to as communication electronics and electrical equipment)", "general machinery and tools manufacturing" and "electrical machinery, equipment and supplies manufacturing". With "software", on the other hand, manufacturers with large capitalization and non-manufacturers with relatively small capitalization tend to have large shares. Among manufacturing industries, "communication, electronics and electrical equipment" and "electrical machinery, equipment and supplies" stand out, while, among non-manufacturing industries, "information services and research services", "wholesale trade (machinery and equipment)" and "wholesale trade (general merchandise)" dominate, ranked in that order. With "trademark only", companies with relatively small capitalization have large shares, with textiles manufacturing being the dominant industry.