Trade liberalization and global trade since 1996
An Overview

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Economic Research and Statistics Division
World Trade Organization
Outline

- Coverage
- Tariffs
- Trade flows
- Global Production Networks
- Summary
ITA Main Product Categories

- **Computers**:
  - PCs
  - Laptops
  - Input/output units

- **Semiconductors**:
  - Transistors
  - Integrated circuits
  - Microprocessors
  - Electronic microassemblies

- **Semiconductors manufacturing equipment**:
  - Encapsulation machines
  - Inspection apparatuses

- **Telecom. apparatus**:
  - Telephones
  - Pagers
  - Mobile phones
  - Switching equipment

- **Data storage media and software**:
  - Floppy disks
  - CDs
  - Software in physical support

- **Parts and Accessories**:

**Source:** Ministerial Declaration on Trade in Information Technology Products.
Average applied tariffs on IT products prior to the ITA

Source: WTO Secretariat, based on Integrated Data Base (IDB) data.
Bound and latest applied tariffs for non-participants

Source: WTO Secretariat, based on WTO schedules, CTS and IDB databases.
The expansion of world exports of IT products and other manufactures, 1996-2010
(indexes, 1996=100)

Source: WTO Secretariat, based on UN Comtrade and WTO estimates
Share of IT products in world merchandise exports, 2010

Source: WTO Secretariat, based on UN Comtrade and WTO estimates.
Share of IT products in exports of manufactures and price index of US imports of computers, peripherals and semiconductors

World exports of IT products, by product category

1996

- ITA 1 Computers and calculating machines 28%
- ITA 2 Telecommunications equipment 9%
- ITA 3 Semiconductors 28%
- ITA 4 Semiconductor manufacturing equipment 1%
- ITA 5 Other instruments and apparatus 3%
- ITA 6 Data storage media and software provided on physical media 3%
- ITA 7 Parts & accessories 28%

2010

- ITA 1 Computers and calculating machines 22%
- ITA 2 Telecommunications equipment 16%
- ITA 3 Semiconductors 33%
- ITA 4 Semic. Manuf. Equip. 1%
- ITA 5 Other instruments and apparatus 3%
- ITA 6 Data storage media and software provided on physical media 2%
- ITA 7 Parts & accessories 24%

Source: WTO Secretariat, based on UN Comtrade and WTO estimates.
Exports of IT products by economic and geographic region

Source: WTO Secretariat, based on UN Comtrade and WTO estimates.
Leading exporters of IT products: shares in world exports of IT products

Top 10 intermediate goods traded: Japan, 2010

**Exports**

- Monolithic integrated circuits
- Transmissions for motor vehicles
- Parts of printing machinery and ancillary equipment
- Motor vehicle parts nes
- Photosensitive/photovoltaic/LED semiconductor devices
- Parts for spark-ignition engines except aircraft
- Parts for radio/TV transmit/receive equipment, nes
- Parts of machines and mechanical appliances nes
- Chemical prep, allied in
- Electrical switch, protector, connector for < 1kV nes

**Imports**

- Monolithic integrated circuits
- Iron ore, concentrate, not iron pyrites, unagglomerated
- Copper ores and concentrates
- Parts for radio/TV transmit/receive equipment, nes
- Parts and accessories of data processing equipment nes
- Maize except seed corn
- Aluminium unwrought, not alloyed
- Parts of line telephone/telegraph equipment, nes
- Ignition/other wiring sets for vehicles/aircraft/ship
- Antisera and other blood fractions

**Source:** UN Comtrade database.

Top 10 intermediate goods traded: **China, 2010**

**Exports**

<table>
<thead>
<tr>
<th>Goods Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts and accessories of data processing equipment nes</td>
<td></td>
</tr>
<tr>
<td>Parts of line telephone/telegraph equipment, nes</td>
<td></td>
</tr>
<tr>
<td>Monolithic integrated circuits</td>
<td></td>
</tr>
<tr>
<td>Photosensitive/photovoltaic/LE D semiconductor devices</td>
<td></td>
</tr>
<tr>
<td>Electronic printed circuits</td>
<td></td>
</tr>
<tr>
<td>Parts for radio/TV transmit/receive equipment, nes</td>
<td></td>
</tr>
<tr>
<td>Parts of printing machinery and ancillary equipment</td>
<td></td>
</tr>
<tr>
<td>Taps, cocks, valves and similar appliances, nes</td>
<td></td>
</tr>
<tr>
<td>Structures and parts of structures, iron or steel, nes</td>
<td></td>
</tr>
<tr>
<td>Electric conductors, nes &lt; 80 volts, with connectors</td>
<td></td>
</tr>
</tbody>
</table>

**Imports**

<table>
<thead>
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<th>Value</th>
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<td></td>
</tr>
<tr>
<td>Iron ore, concentrate, not iron pyrites, unagglomerated</td>
<td></td>
</tr>
<tr>
<td>Soya beans</td>
<td></td>
</tr>
<tr>
<td>Copper cathodes and sections of cathodes unwrought</td>
<td></td>
</tr>
<tr>
<td>Parts and accessories of data processing equipment nes</td>
<td></td>
</tr>
<tr>
<td>Parts of line telephone/telegraph equipment, nes</td>
<td></td>
</tr>
<tr>
<td>Copper ores and concentrates</td>
<td></td>
</tr>
<tr>
<td>Copper/copper alloy waste or scrap</td>
<td></td>
</tr>
<tr>
<td>Electronic printed circuits</td>
<td></td>
</tr>
<tr>
<td>Transmissions for motor vehicles</td>
<td></td>
</tr>
</tbody>
</table>

Source: UN Comtrade database

### Case studies: smartphones

#### Nokia N95: cost breakdown, 2007

<table>
<thead>
<tr>
<th>Individual components</th>
<th>Cost (€)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processors</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>Memories</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Integrated circuits</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>Display</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Camera (5mp)</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Other parts</td>
<td>59</td>
<td>11</td>
</tr>
<tr>
<td>Licences</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Value added(^1)</td>
<td>169</td>
<td>31</td>
</tr>
<tr>
<td>Nokia's operating profit</td>
<td>89</td>
<td>16</td>
</tr>
<tr>
<td>Final assembly</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Distribution</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Retailing</td>
<td>60</td>
<td>11</td>
</tr>
</tbody>
</table>

Global production networks: 33%


Notes: 1 Value added in Nokia’s internal support function, excluding operating profits and assembly listed in the table.
Share of VS in office, accounting and computing machinery, 2005

Source: WTO estimates, based on OECD 2005 input-output tables.
Notes: For India, 2003-04 fiscal year.
US trade balance in iPhones, 2009

Source: WTO/IDE-JETRO (2011), Trade Patterns and Global Value Chains in East Asia: From Trade in Goods to Trade in Tasks, Geneva: WTO.
### Are developed country jobs relocating to developing countries?

<table>
<thead>
<tr>
<th>Employment and labour productivity: average annual growth rates, 1975-2007 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Electronic, electrical and optical products</strong></td>
</tr>
<tr>
<td>EU-15</td>
</tr>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>United States</td>
</tr>
<tr>
<td><strong>Financial and insurance activities</strong></td>
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<td>EU-15</td>
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<tr>
<td>Japan</td>
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<tr>
<td>United States</td>
</tr>
</tbody>
</table>

Global production networks

Trade of IT products

Source: UN Comtrade database
India: software services exports

Source: Reserve Bank of India.
Notes: *WTO estimates; software services cover computer services (IT services and software development), IT-enabled services and business process outsourcing.
To summarise

- Trade in ITA products almost tripled in the last 16 years, changing trade patterns in terms of main traders and products. Developing countries' share is now at 64 per cent of exports...Semiconductors are the largest ITA product group, followed by computers and telecom. equipment.

- Many finished electronic products are produced in GPNs. This makes the elimination of tariffs and other barriers to trade, as well as good infrastructure services and trade facilitation, ever more important.

- Supply chains can be disrupted through protectionist policies. The smooth functioning of GPNs requires strengthened global governance.
Thank You!