Annex III. Country profiles

BRAZIL AT A GLANCE

Innovators in manufacturing as a % of all manufacturing firms

- Product: 23.0%
- Process: 32.0%
- Product or process: 38.0%
- Organizational: 54.0%
- Marketing: 48.0%

Notes: Organizational innovation includes environmental management techniques and methods to organize external relations can be new or significantly changed.

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

- Intramural R&D: 4.7%
- Extramural R&D: 1.9%
- Acq. of mach., equip. and sw: 34.1%
- Acq. other ext. knowledge: 14.7%
- Training: 26.5%
- Market intro. of innov.: 16.7%
- Other prep.: 16.7%

Highly important sources of information for firms as a % of innovation-active manufacturing firms

- Within enterprise (group): 10.0%
- Suppliers: 46.0%
- Clients, customers: 38.3%
- Competitors: 22.7%
- Consult, com labs, priv R&D inst: 10.8%
- Univ, other higher educ instit: 6.3%
- Gov, pub research inst: 4.9%
- Conf, fairs, exhibit: n.a.
- Journals, trade, tech publ: n.a.
- Professional and ind assoc: n.a.
General notes: Based on a three-year observation period. For more specifications please consult the full report.
CHINA AT A GLANCE

### Innovators in manufacturing as a % of manufacturing firms

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>25.2</td>
<td>55.9</td>
<td>n.a.</td>
<td>25.2</td>
</tr>
<tr>
<td>Process</td>
<td>58.9</td>
<td>n.a.</td>
<td>n.a.</td>
<td>58.9</td>
</tr>
<tr>
<td>Product or process</td>
<td>83.5</td>
<td>n.a.</td>
<td>n.a.</td>
<td>83.5</td>
</tr>
<tr>
<td>Organizational</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Marketing</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Notes:** Product innovation covers only new or significantly improved goods. Logistics, delivery or distribution methods are not explicitly mentioned in process innovation.

### Innovators in manufacturing by size class as a % of manufacturing firms in each size class

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>25.2</td>
<td>55.9</td>
<td>n.a.</td>
<td>25.2</td>
</tr>
<tr>
<td>Organizational</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Marketing</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Notes:** Product innovation covers only new or significantly improved goods. Logistics, delivery or distribution methods are not explicitly mentioned in process innovation. Data broken down by size class cover manufacturing, mining and quarrying, as well as electricity, gas and water supply.

### Firms engaged in innovation activities as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Activity</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>63.3</td>
<td>66.0</td>
<td>77.5</td>
<td>60.6</td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td>22.1</td>
<td>28.1</td>
<td>60.6</td>
<td>36.9</td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td>28.1</td>
<td>60.6</td>
<td>71.5</td>
<td>63.3</td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td>22.1</td>
<td>66.0</td>
<td>77.5</td>
<td>60.6</td>
</tr>
<tr>
<td>Training</td>
<td>60.6</td>
<td>71.5</td>
<td>63.3</td>
<td>66.0</td>
</tr>
<tr>
<td>Market intro. of innov.</td>
<td>36.9</td>
<td>63.3</td>
<td>77.5</td>
<td>60.6</td>
</tr>
<tr>
<td>Other prep.</td>
<td>63.3</td>
<td>66.0</td>
<td>77.5</td>
<td>60.6</td>
</tr>
</tbody>
</table>
Highly important sources of information for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Internal</th>
<th>Market</th>
<th>Institutional</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within enterprise (group)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients, customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univ, other higher educ inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conf, fairs, exhib</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journals, trade, tech publ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional and ind assoc</td>
<td>14.8</td>
<td>29.6</td>
<td>26.7</td>
<td>24.7</td>
</tr>
</tbody>
</table>

Notes: Lack of qualified personnel refers to lack of technical personnel or 'brain drain' of technical talents. Innovation is easy to imitate refers to counterfeiting or import competition.

General notes: Based on a three-year observation period. For more specifications please consult the full report.
COLOMBIA AT A GLANCE

**Innovators in manufacturing as a % of manufacturing firms**

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>10.8</td>
<td>13.6</td>
<td>n.a.</td>
<td>20.0</td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product or process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Marketing innovation includes significant changes other than in design or packaging.

**Innovators in manufacturing by size class as a % of manufacturing firms in each size class**

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>25.5</td>
<td>31.0</td>
<td>45.0</td>
<td>14.6</td>
</tr>
<tr>
<td>Organizational</td>
<td>14.6</td>
<td>19.8</td>
<td>30.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Marketing</td>
<td>7.4</td>
<td>14.6</td>
<td>25.5</td>
<td>14.6</td>
</tr>
</tbody>
</table>

**Notes:** Marketing innovation includes significant changes other than in design or packaging.

**Firms engaged in innovation activities as a % of innovation-active manufacturing firms**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>26.8</td>
<td>8.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td>7.2</td>
<td>19.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market intro. of innov.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other prep.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Data only cover product and process innovators. Acquisition of software is not included. Acquisition of other external knowledge is categorized under technology transfer.
Highly important sources of information for firms as a % of innovation-active manufacturing firms

Notes: Data only cover product and process innovators. Question based on dichotomous (yes/no) responses.

Cooperation partners of firms as a % of innovation-active manufacturing firms

Notes: Data only cover product and process innovators.

Highly important hampering factors for firms as a % of innovation-active manufacturing firms

Notes: Data only cover product and process innovators.

General notes: Based on a two-year observation period. Sample survey data (no grossed up results). For more specifications please consult the full report.
EGYPT AT A GLANCE

Innovators in manufacturing as a % of manufacturing firms

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>3.6</td>
<td>6.0</td>
<td>9.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Process</td>
<td>6.2</td>
<td>8.3</td>
<td>9.3</td>
<td>6.0</td>
</tr>
<tr>
<td>Product or process</td>
<td>6.2</td>
<td>9.3</td>
<td>6.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Organizational</td>
<td>3.6</td>
<td>6.2</td>
<td>9.3</td>
<td>6.0</td>
</tr>
<tr>
<td>Marketing</td>
<td>3.6</td>
<td>6.2</td>
<td>9.3</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

Innovators in manufacturing by size class as a % of manufacturing firms in each size class

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>n.a.</td>
<td>2.6</td>
<td>6.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Organizational</td>
<td>2.6</td>
<td>6.3</td>
<td>6.6</td>
<td>14.9</td>
</tr>
<tr>
<td>Marketing</td>
<td>1.3</td>
<td>2.6</td>
<td>6.2</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Activity</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>5.5</td>
<td>11.0</td>
<td>41.3</td>
<td>74.3</td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td>5.5</td>
<td>11.0</td>
<td>41.3</td>
<td>74.3</td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td>5.5</td>
<td>11.0</td>
<td>41.3</td>
<td>74.3</td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td>19.3</td>
<td>56.9</td>
<td>74.3</td>
<td>56.9</td>
</tr>
<tr>
<td>Training</td>
<td>19.3</td>
<td>56.9</td>
<td>74.3</td>
<td>56.9</td>
</tr>
<tr>
<td>Market intro. of innov.</td>
<td>19.3</td>
<td>56.9</td>
<td>74.3</td>
<td>56.9</td>
</tr>
<tr>
<td>Other prep.</td>
<td>35.8</td>
<td>56.9</td>
<td>74.3</td>
<td>56.9</td>
</tr>
</tbody>
</table>
Highly important sources of information for firms as a % of innovation-active manufacturing firms

Within enterprise (group) 84.4%
Suppliers 32.5%
Clients, customers 20.0%
Competitors 24.8%
Consult, com labs, priv R&D inst 2.9%
Univ, other higher educ instit 1.9%
Gov, pub research inst 1.0%
Conf, fairs, exhib 16.2%
Journals, trade, tech publ 6.7%
Professional and ind assoc 20.0%

Cooperation partners of firms as a% of innovation-active manufacturing firms

Any type 7.5%
Other enterprises within group n.a.
Suppliers n.a.
Clients, customers n.a.
Competitors n.a.
Consult, com labs, priv R&D inst n.a.
Univ, other higher educ instit n.a.
Gov, pub research inst n.a.

Highly important hampering factors for firms as a % of innovation-active manufacturing firms

Funds within 28.6%
Finance from outside 28.6%
High costs 21.8%
Econ risks n.a.
Qualified personnel 29.4%
Info on tech 36.1%
Info on markets 37.0%
Cooperation partners 27.7%
Market domination 26.1%
Uncertain demand n.a.
Easy to imitate 29.4%

General notes: Based on a three-year observation period. For more specifications please consult the full report.
GHANA AT A GLANCE

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>42.1</td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td>14.0</td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td>80.7</td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td>15.8</td>
</tr>
<tr>
<td>Training</td>
<td>86.0</td>
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<tr>
<td>Market intro. of innov.</td>
<td>71.9</td>
</tr>
<tr>
<td>Other prep.</td>
<td>45.6</td>
</tr>
</tbody>
</table>

Notes: Data only cover product and process innovators.

Highly important sources of information for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within enterprise (group)</td>
<td>43.9</td>
</tr>
<tr>
<td>Suppliers</td>
<td>35.1</td>
</tr>
<tr>
<td>Clients, customers</td>
<td>29.8</td>
</tr>
<tr>
<td>Competitors</td>
<td>17.5</td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td>14.0</td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td>14.0</td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td>14.0</td>
</tr>
<tr>
<td>Conf, fairs, exhib</td>
<td>7.0</td>
</tr>
<tr>
<td>Journals, trade, tech publ</td>
<td>7.0</td>
</tr>
<tr>
<td>Professional and ind assoc</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: Data only cover product and process innovators.

Cooperation partners of firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Partner Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any type</td>
<td>n.a.</td>
</tr>
<tr>
<td>Other enterprises within group</td>
<td>28.1</td>
</tr>
<tr>
<td>Suppliers</td>
<td>31.6</td>
</tr>
<tr>
<td>Clients, customers</td>
<td>17.5</td>
</tr>
<tr>
<td>Competitors</td>
<td>12.3</td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td>8.8</td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td>0</td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: Data only cover product and process innovators.
Highly important hampering factors for firms as a % of innovation-active manufacturing firms

Notes: Data only cover product and process innovators.

General notes: Based on a three-year observation period. For more specifications please consult the full report.
INDONESIA AT A GLANCE

### Firms engaged in innovation activities as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Activity</th>
<th>% of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>48.3</td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td>5.2</td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td>39.3</td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td>21.6</td>
</tr>
<tr>
<td>Training</td>
<td>37.0</td>
</tr>
<tr>
<td>Market intro. of innov.</td>
<td>85.4</td>
</tr>
<tr>
<td>Other prep.</td>
<td>77.5</td>
</tr>
</tbody>
</table>

**Notes:** No specification of firms covered.

### Highly important sources of information for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Source</th>
<th>% of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within enterprise (group)</td>
<td>45.5</td>
</tr>
<tr>
<td>Suppliers</td>
<td>45.0</td>
</tr>
<tr>
<td>Clients, customers</td>
<td>51.0</td>
</tr>
<tr>
<td>Competitors</td>
<td>25.0</td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td>9.0</td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td>7.0</td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td>6.0</td>
</tr>
<tr>
<td>Conf, fairs, exhib</td>
<td>n.a.</td>
</tr>
<tr>
<td>Journals, trade, tech publ</td>
<td>15.0</td>
</tr>
<tr>
<td>Professional and ind assoc</td>
<td>14.0</td>
</tr>
</tbody>
</table>

**Notes:** No specification of firms covered.

### Cooperation partners of firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Partner Type</th>
<th>% of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any type</td>
<td>n.a.</td>
</tr>
<tr>
<td>Other enterprises within group</td>
<td>37.8</td>
</tr>
<tr>
<td>Suppliers</td>
<td>66.3</td>
</tr>
<tr>
<td>Clients, customers</td>
<td>n.a.</td>
</tr>
<tr>
<td>Competitors</td>
<td>18.4</td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td>24.5</td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td>19.4</td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td>11.2</td>
</tr>
</tbody>
</table>

**Notes:** No specification of firms covered.
General notes: Based on a two-year observation period. For more specifications please consult the full report.
Highly important sources of information for firms as a % of innovation-active manufacturing firms:

- Within enterprise (group): 66.3%
- Suppliers: 0%
- Clients, customers: 4.5%
- Competitors: n.a.
- Consult, com labs, priv R&D inst: n.a.
- Univ, other higher educ inst: 23.9%
- Gov, pub research inst: 13.4%
- Conf, fairs, exhib: 4.5%
- Journals, trade, tech publ: n.a.
- Professional and ind assoc: n.a.

Cooperation partners of firms as a % of innovation-active manufacturing firms:

- Any type: 33.4%
- Other enterprises within group: 8.2%
- Suppliers: 19.6%
- Clients, customers: 17.3%
- Competitors: 14.4%
- Consult, com labs, priv R&D inst: 12.6%
- Univ, other higher educ inst: 12.6%
- Gov, pub research inst: 8.2%

Highly important impeding factors for firms as a % of innovation-active manufacturing firms:

- Funds within: 26.5%
- Finance from outside: 11.1%
- High costs: 21.4%
- Econ risks: n.a.
- Qualified personnel: 16.0%
- Info on tech: 5.5%
- Info on markets: 4.5%
- Cooperation partners: 6.3%
- Market domination: 10.7%
- Uncertain demand: 6.2%
- Easy to imitate: n.a.

General notes: Based on a three-year observation period. For more specifications please consult the full report.
MALAYSIA AT A GLANCE

**Innovators in manufacturing as a % of manufacturing firms**

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>28.0</td>
<td>28.1</td>
<td>39.0</td>
<td>33.3</td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td></td>
<td></td>
<td>39.0</td>
</tr>
<tr>
<td>Product or process</td>
<td></td>
<td></td>
<td></td>
<td>28.1</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td></td>
<td></td>
<td>28.0</td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td>28.0</td>
</tr>
</tbody>
</table>

**Notes:** Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

**Innovators in manufacturing by size class as a % of manufacturing firms in each size class**

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>45.7</td>
<td>46.2</td>
<td>21.3</td>
<td>29.9</td>
</tr>
<tr>
<td>Organizational</td>
<td>12.8</td>
<td>29.9</td>
<td>47.9</td>
<td>17.0</td>
</tr>
<tr>
<td>Marketing</td>
<td>17.0</td>
<td>21.3</td>
<td>45.7</td>
<td>12.8</td>
</tr>
</tbody>
</table>

**Notes:** Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

**Firms engaged in innovation activities as a % of innovation-active manufacturing firms**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Intramural R&amp;D</th>
<th>Extramural R&amp;D</th>
<th>Acq. of mach., equip. and sw</th>
<th>Acq. other ext. knowledge</th>
<th>Training</th>
<th>Market intro. of innov.</th>
<th>Other prep.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>42.5</td>
<td>64.9</td>
<td>64.9</td>
<td>64.9</td>
<td>64.9</td>
<td>64.9</td>
<td>64.9</td>
</tr>
</tbody>
</table>

**Notes:** Data also cover organizational and marketing innovators.
**Highly important sources of information for firms as a % of innovation-active manufacturing firms**

- Within enterprise (group): 72.0%
- Suppliers: 39.0%
- Clients, customers: 39.6%
- Competitors: 33.9%
- Consult, com labs, priv R&D inst: 17.1%
- Univ, other higher educ inst: 17.3%
- Gov, pub research inst: 25.1%
- Conf, fairs, exhib: 22.9%
- Journals, trade, tech publ: 23.2%
- Professional and ind assoc: 39.6%

**Notes:** Data also cover organizational and marketing innovators.

**Cooperation partners of firms as a % of innovation-active manufacturing firms**

- Any type: n.a.
- Other enterprises within group: 65.5%
- Suppliers: 55.1%
- Clients, customers: 96.1%
- Competitors: 30.0%
- Consult, com labs, priv R&D inst: 45.0%
- Univ, other higher educ inst: 84.0%
- Gov, pub research inst: 37.0%

**Notes:** Data also cover organizational and marketing innovators.

**Highly important hampering factors for firms as a % of innovation-active manufacturing firms**

- Funds within: 29.3%
- Finance from outside: 40.3%
- High costs: 41.3%
- Econ risks: 33.8%
- Qualified personnel: 28.7%
- Info on tech: 25.6%
- Info on markets: 22.9%
- Cooperation partners: 22.6%
- Market domination: 30.7%
- Uncertain demand: 21.5%
- Easy to imitate: n.a.

**Notes:** Data also cover organizational and marketing innovators.

**General notes:** Based on a four-year observation period. For more specifications please consult the full report.
PHILIPPINES AT A GLANCE

Innovators in manufacturing as a % of manufacturing firms

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>30.2</td>
<td></td>
<td>45.8</td>
<td>58.8</td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td>39.0</td>
<td>52.0</td>
<td>60.8</td>
</tr>
<tr>
<td>Product or process</td>
<td></td>
<td>43.0</td>
<td>50.0</td>
<td>67.0</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes.

Innovators in manufacturing by size class as a % of manufacturing firms in each size class

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>30.2</td>
<td></td>
<td>45.8</td>
<td>58.8</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td>39.0</td>
<td>52.0</td>
<td>67.0</td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td>43.0</td>
<td>50.0</td>
<td>67.0</td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes.

Highly important sources of information for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Source</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>67.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>49.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional</td>
<td>37.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>10.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td></td>
<td>21.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients, customers</td>
<td></td>
<td></td>
<td>21.7</td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td></td>
<td></td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td>7.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conf, fairs, exhib</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journals, trade, tech publ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional and ind assoc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes.
**Cooperation partners of firms as a % of innovation-active manufacturing firms**

- Any type: n.a.
- Other enterprises within group: 91.2%
- Suppliers: 92.8%
- Clients, customers: 67.6%
- Competitors: 94.1%
- Consult, com labs, priv R&D inst: 64.7%
- Univ, other higher educ instit: 47.1%
- Gov, pub research inst: 50.0%

**Highly important hampering factors for firms as a % of innovation-active manufacturing firms**

- Funds within: 19.1%
- Finance from outside: 10.2%
- High costs: 20.9%
- Econ risks: n.a.
- Qualified personnel: 11.7%
- Info on tech: 8.2%
- Info on markets: 10.0%
- Cooperation partners: 5.6%
- Market domination: 14.7%
- Uncertain demand: 9.9%
- Easy to imitate: n.a.

**General notes**: Based on a one-and-a-half-year observation period. IT services are also included. Results are not representative of the target population. For more specifications please consult the full report.
RUSSIAN FEDERATION AT A GLANCE

Innovators in manufacturing as a % of manufacturing firms

- Product: 8.0%
- Process: 5.9%
- Product or process: 11.3%
- Organizational: 4.0%
- Marketing: 3.4%

Innovators in manufacturing by size class as a % of manufacturing firms in each size class

- Product or process: Micro 5.4%, Small 25.4%
- Organizational: Micro 1.7%, Small 9.5%
- Marketing: Micro 1.8%, Small 7.3%

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

- Intramural R&D: 18.9%
- Extramural R&D: 20.0%
- Acq. of mach., equip. and sw: 64.0%
- Acq. other ext. knowledge: 12.7%
- Training: 18.3%
- Market intro. of innov.: 9.6%
- Other prep.: n.a.

Notes: Acquisition of software is not included.
**Highly important sources of information for firms as a % of innovation-active manufacturing firms**

- **Within enterprise (group)**: 32.9%
- **Suppliers**: 34.9%
- **Clients, customers**: 14.1%
- **Competitors**: 11.3%
- **Consult, com labs, priv R&D inst**: 1.7%
- **Univ, other higher educ instit**: 1.9%
- **Gov, pub research inst**: n.a.
- **Conf, fairs, exhib**: 7.4%
- **Journals, trade, tech publ**: 12.0%
- **Professional and ind assoc**: 4.1%

**Notes**: Data also cover organizational and marketing innovators. Internal sources do not cover enterprise group.

**Highly important hampering factors for firms as a % of innovation-active manufacturing firms**

- **Funds within**: n.a.
- **Finance from outside**: n.a.
- **High costs**: 16.3%
- **Econ risks**: 27.8%
- **Qualified personnel**: 5.3%
- **Info on tech**: 1.8%
- **Info on markets**: 2.9%
- **Cooperation partners**: 1.6%
- **Market domination**: n.a.
- **Uncertain demand**: n.a.
- **Easy to imitate**: 9.1%

**Notes**: Data also cover organizational and marketing innovators.

**General notes**: Based on a one-year observation period. For more specifications please consult the full report.
SOUTH AFRICA AT A GLANCE

Innovators in manufacturing as a % of manufacturing firms

<table>
<thead>
<tr>
<th>Category</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>16.8</td>
<td>20.9</td>
<td>52.6</td>
</tr>
<tr>
<td>Process</td>
<td>13.1</td>
<td>25.6</td>
<td>57.4</td>
</tr>
<tr>
<td>Product or process</td>
<td>20.9</td>
<td>21.2</td>
<td>71.1</td>
</tr>
<tr>
<td>Organizational</td>
<td>23.3</td>
<td>48.9</td>
<td>71.1</td>
</tr>
<tr>
<td>Marketing</td>
<td>13.1</td>
<td>44.9</td>
<td>69.6</td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

Innovators in manufacturing by size class as a % of manufacturing firms in each size class

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or process</td>
<td>20.4</td>
<td>17.4</td>
<td>25.6</td>
<td>55.9</td>
</tr>
<tr>
<td>Organizational</td>
<td>20.5</td>
<td>44.9</td>
<td>57.4</td>
<td>71.1</td>
</tr>
<tr>
<td>Marketing</td>
<td>17.6</td>
<td>21.2</td>
<td>48.9</td>
<td>71.1</td>
</tr>
</tbody>
</table>

Notes: Organizational innovation includes new or significant changes. Marketing innovation includes significant changes other than in design or packaging.

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Activity</th>
<th>Micro</th>
<th>Small</th>
<th>Medium-sized</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural R&amp;D</td>
<td>54.1</td>
<td>71.2</td>
<td>71.2</td>
<td>69.6</td>
</tr>
<tr>
<td>Extramural R&amp;D</td>
<td>22.4</td>
<td></td>
<td>71.2</td>
<td></td>
</tr>
<tr>
<td>Acq. of mach., equip. and sw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acq. other ext. knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>42.6</td>
<td></td>
<td>69.6</td>
<td></td>
</tr>
<tr>
<td>Market intro. of innov.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other prep.</td>
<td>47.7</td>
<td></td>
<td>69.6</td>
<td></td>
</tr>
</tbody>
</table>

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**Highly important sources of information for firms as a % of innovation-active manufacturing firms**

- Within enterprise (group): 44.0%
- Suppliers: 41.8%
- Clients, customers: 17.9%
- Competitors: 6.9%
- Consult, com labs, priv R&D inst: 3.0%
- Univ, other higher educ instit: 2.2%
- Conf, fairs, exhib: 12.9%
- Journals, trade, tech publ: 16.7%
- Professional and ind assoc: 8.4%

**Cooperation partners of firms as a % of innovation-active manufacturing firms**

- Any type: 33.0%
- Other enterprises within group: 14.2%
- Suppliers: 30.3%
- Clients, customers: 31.7%
- Competitors: 18.6%
- Consult, com labs, priv R&D inst: 21.1%
- Univ, other higher educ instit: 16.2%
- Gov, pub research inst: 16.2%

**Highly important hampering factors for firms as a % of innovation-active manufacturing firms**

- Funds within: 38.0%
- Finance from outside: 33.5%
- High costs: 23.5%
- Econ risks: n.a.
- Qualified personnel: 23.0%
- Info on tech: 11.9%
- Info on markets: 11.7%
- Cooperation partners: 13.1%
- Market domination: 17.5%
- Uncertain demand: 15.5%
- Easy to imitate: n.a.

**General notes:** Based on a three-year observation period. For more specifications please consult the full report.
URUGUAY AT A GLANCE

Innovators in manufacturing as a % of manufacturing firms

- Product: 17.2%
- Process: 24.5%
- Product or process: 28.6%
- Organizational: 8.4%
- Marketing: 4.8%

Innovators in manufacturing by size class as a % of manufacturing firms in each size class

- Product or process: Micro: 0%, Small: 3.4%, Medium-sized: 15.0%, Large: 22.0%
- Organizational: Micro: 4.0%, Small: 4.2%, Medium-sized: 12.9%

Firms engaged in innovation activities as a % of innovation-active manufacturing firms

- Intramural R&D: 11.1%
- Extramural R&D: 1.2%
- Acq. of mach., equip. and sw: 20.3%
- Acq. other ext. knowledge: 4.4%
- Training: 15.1%
- Market intro. of innov.: n.a.
- Other prep.: n.a.

Notes: Data cover organizational and marketing innovators and exclude firms with abandoned or ongoing activities. Acquisition of machinery, equipment and software refers to acquisition of capital goods. Acquisition of other external knowledge is categorized under technology transfer and consultancy.
### Highly important sources of information for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Source</th>
<th>Internal</th>
<th>Market</th>
<th>Institutional</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within enterprise (group)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients, customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consult, com labs, priv R&amp;D inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univ, other higher educ instit</td>
<td>14.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gov, pub research inst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conf, fairs, exhib</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journals, trade, tech publ</td>
<td></td>
<td>16.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional and ind assoc</td>
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<td>14.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 15 30 45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Data cover organizational and marketing innovators and exclude firms with abandoned or ongoing activities.

### Highly important hampering factors for firms as a % of innovation-active manufacturing firms

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cost and economic</th>
<th>Knowledge</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds within</td>
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</tr>
<tr>
<td>Finance from outside</td>
<td>n.a.</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>High costs</td>
<td></td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Econ risks</td>
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<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Qualified personnel</td>
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<td>32.4</td>
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</tr>
<tr>
<td>Info on tech</td>
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<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Info on markets</td>
<td></td>
<td>16.4</td>
<td></td>
</tr>
<tr>
<td>Cooperation partners</td>
<td></td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Market domination</td>
<td></td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Uncertain demand</td>
<td></td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Easy to imitate</td>
<td></td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 15 30 45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Data cover organizational and marketing innovators and exclude firms with abandoned or ongoing activities.

**General notes:** Based on a three-year observation period. For more specifications please consult the full report.