

# STATISTICS

(2004/5)

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## **Introduction**

More than 500 companies, from 14 different countries, contributed world wide for the 2004 ISTMA survey. Overall the pattern of countries contributing is similar to that of the previous year.

Comparing 2003 national contributions to the ISTMA statistics report shows that all the national association that have contributed in 2003, they have also contributed to the 2004 data collection, except Spain. Czech Republic contributed this year for all the four sections of ISTMA statistics, and France made a limited contribution (only for part of the production and trade data). Both these countries had not contributed to the 2003 data.

Hungary, Spain and Sweden have not contributed for the 2004 survey in Europe. From Asia, no data from Australia, China, China Taipei, India, Philippines and Singapore has been received.

The following table shows the number of companies per country answering the survey in 2004 and 2003, and also the sections for which each national association has contributed in the 2004 survey. The number of companies this year reported from Japan is based on the total number of companies in the country, not on the companies contributing to the survey. This makes a direct comparison of the total number of companies difficult.

		2003	2004	2004	2004	2004	2004
				A1	A2	B	C
Canada	Am	128	120	➤	➤	➤	➤
USA	Am	438	207	P	➤	➤	➤
	2	566	327				
Japan	Asia	143	759	P	P	P	➤
Korea	Asia	26	22	➤	➤	➤	N
Malasya	Asia	6	12	➤	➤	➤	P
	3	175	793				
Czech Republic	Eur	0	7	➤	➤	➤	➤
Estonia	Eur	7	7	➤	➤	➤	➤
Finland	Eur	9	19	P	➤	➤	P
France	Eur	?	0	N	➤	N	N
Germany	Eur	34	26	➤	➤	➤	➤
Great Britain	Eur	7	5	➤	➤	➤	➤
Italy	Eur	20	14	P	➤	➤	P
Portugal	Eur	32	25	P	➤	➤	➤
Slovenia	Eur	15	15	➤	➤	➤	➤
Spain	Eur	10	0	N	N	N	N
Switzerland	Eur	5	2	➤	➤	➤	➤
	9	139	120				
Total	14	880	1240				
Total without Japan		737	481				

P= partial contribution; N= no contribution

A1= companies structure; A2= business figures and ratios  
B= wages and salaries; C= production and trade



ISTMA statistics are a unique contribution to the knowledge of the tool, die and mould industries, also known as the precision industries or precision engineering industries. From 1988, ISTA and later ISTMA, have been collecting yearly data about the industry from each country, at a more granular and detailed level than the data usually available in the official national statistics. These statistics, collected at the company level in each country, have been an important source of benchmarking data for die and mould companies worldwide.

ISTMA is aware of the limitations of the available data and of associated problems. In some countries the number of companies contributing to the survey is small and very small. Some national associations report difficulties to have the contribution of their affiliated companies for the annual survey.

ISTMA Melbourne meeting (2005) has again discussed the issues of statistics and a plan to revise the presentation of the data was discussed and approved. This report is a transition in that evolution. A first effort has been made to present the data in a more systematic and easy to compare format.

Efforts to collect and to present the historical data available for each country in a compatible format are under way and a full report will be available during the next months.

All money values are in euros. A table with the conversion rates used is included.

Data is presented under three main groups:

A. Business figures and ratios relative to the 2004 year, collected by the companies survey, and organized under two sets of data:

- A1 (companies data structure) summarizes the data about the companies contributing to the survey per country. These data shows the profiles of the contributing companies per country:

- specialization of the companies (if more than 70% of the production, or otherwise mixed program companies – columns a1 to a6),
- captive shops (column b1),

- dimension of the companies (columns c1 to c4),
- purchasing profiles of the companies (columns d1 to d8)

- A2 (economical and financial ratios), collected by the companies survey, summarizes per country

- the turnover (sales), value added and operating income by employee and per hour (columns i1 to p1),
- several ratios relative to the annual turnover (sales) (columns q1 to q7)
- financial liquidity (column u1)

B. Wages and salaries, reference to May 2005, collected by the companies survey, per country, includes information about

- working hours per year (columns m1 and m2)
- structure of wages and salaries (column r2)
- minimum, maximum and average hourly salaries for skilled
  - mouldmaker (columns v1 to v3)
  - tool and die maker (columns x1 to x3)
  - designer (columns y1 to y3)
  - machine operator / programmer (columns w1 to w3)
  - machine loader (columns z1 to z3)
- minimum, maximum and average monthly salary for a foreman (columns aa1 to aa3)

C. Production and trade statistics, by country. These data was NOT collected from the



companies survey, but reported by the national associations based on the available data from the national statistics agencies and other sources. Total production, export and import flows (in value) are presented with their components by type of product.

Caution should be used when comparing data from different countries and numbers should be read as non precise estimates, due to the different number of companies answering the survey in different countries, their different profiles and also due to sampling errors and (in some countries) the very limited number of contributions. Anyway, with all the problems that can be present, these data is a unique asset of the industry and efforts should be made to maintain and to improve this main ISTMA asset and activity.

Limited contributions, or even systematic non-cooperation from some of the affiliated national associations, are also an issue that needs to be sorted out in the future. ISTMA is based on the mutual cooperation principles and an effort from all the affiliated associations is expected in order to contribute to the common goal of better and deeper information about the industry world wide.

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**Currency conversion table:**

		Euro	USD
Canada	CAD	0.619	0.770
Czech Republic	CZK	0.031	0.390
Estonia	EEK	0.063	0.079
Finland	EUR	1.000	1.221
France	EUR	1.000	1.221
Germany	EUR	1.000	1.221
Great Britain	GBP	1.474	1.883
Italy	EUR	1.000	1.221
Japan	YEN	0.007	0.009
Korea	KRW	0.001	0.001
Malasya	RM	0.212	0.263
Portugal	EUR	1.000	1.221
Slovenia	SIT	0.004	0.005
Switzerland	CHF	0.648	0.791
USA	USD	0.800	1.000

## Business figures: definitions and explanations

	Item	Description
1	Turnover (sales)	Total values of sales (invoices given to customers) per year, but excluding sales taxes, value added taxes (VAT), sales returns, and sales from any other source or business not connected with the core business. Work-in progress should not be included.
2	Total operating income	Turnover (sales) according to definition for Item #1 plus increase (decrease) in finished goods and work in progress plus own production capitalized.
3	Other operating income	All other revenues not connected to core business
4	Other operating expenses	All other expenses not connected to core business
5	Value added	Total operating performance according to definition for item #2 plus other operating income according to definition for item #3 minus material expenses according to definition for item #10 and other operating expenses according to definition for item #4.
6	Total number of employees	All employees of the company, i.e., hourly (including apprentices), salaried, administrative, management, and owners active in the company. Part-time employees are to converted into full-time employees based on hours worked.
7	Total number of hours worked	Total number of actual hours worked per year for all employees of the company, i.e., hourly (including apprentices), salaried, administrative, management, and owners active in the company
8	Standard parts for tools purchased from outside	All standard parts for tools, i.e., mold bases, die sets, ejector pins, guide pillars, punches, springs, machined plates, bushings, shanks, etc., which are purchased from outside.
9	Subcontract work purchased from outside	Parts for tools (but not standard parts according to definition item #8) and product related technical services, i.e., heat and surface treatment, machining, and design

	Item	Description
		services purchased from outside.
10	Material expenses purchased from outside	All expenses for raw materials plus standard parts for tools purchased from outside according to definition for item #8 plus subcontract work according to definition for Item #9 plus all other materials.
11	Personnel expenses	Total wages and salaries per year for all employees (according to definition for item #6) plus all social service payments and fringe benefits (required by law or voluntary) as well as owners remuneration.
12	Operating profit	Total operating performance according to definition for item #2 plus other operating income according to definition for item #3 minus material expenses according to definition for item #10, personnel expenses according to definition for item #11, and other operating expenses according to definition for item #4. (Value before interest, tax, depreciation/amortization, and extraordinary items).
13	EBITDA	Operating profit according to definition for item #12 plus extraordinary items. (Earnings before interest, tax, and depreciation / amortization).
14	Investment in machinery and equipment	All expenditures per year for machinery and equipment, including software and self-made machinery. Leasing expenditures should be included.
15	Liquidity	Short-term accounts receivable and available funds (quick assets) divided by short-term liabilities on the balance sheet at year end short-term = up to one year). Not included are other current assets such as inventory.
16	Standard working hours for full-time employees	Total number of standard working hours per year for full-time employees. (365 days minus weekends, entitled paid leave, and other festive days) multiplied by standard working hours per day.
17	Actual working hours for full-time employees	Working hours per year for full time employees including overtime and unused entitled paid leave, but not including hours for sickness, strikes, etc.

## **A. Companies survey: business figures and ratios (2004)**

### **A1: companies data structure**

List of columns:

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a0	number of companies	total
a1	number of companies	primarily press tool manufacturers
a2	number of companies	primarily mould companies
a3	number of companies	primarily jigs and fixtures
a4	number of companies	primarily body dies
a5	number of companies	primarily precision engineering
b1	number of companies	primarily mixed production programs
b2	number of companies	primarily integrated captive shops
c1	number of companies	less than 50 people
c2	number of companies	50 to 99 people
c3	number of companies	100 to 299 people
c4	number of companies	more than 300 people
d1	number of companies	purchasing complete tools
d2	number of companies	purchasing parts of tools
d3	number of companies	purchasing other products
d4	number of companies	purchasing grinding work
d5	number of companies	purchasing milling work
d6	number of companies	purchasing edm work
d7	number of companies	purchasing design work
d8	number of companies	purchasing other works

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A1. ISTMA 2004 Companies Surveys - Basic Data

\*1 - included in press tools  
163 = a+b

			number of companies												number of companies							
			total	press tool manufacturers	mould companies	jigs and fixtures	body dies	precision engineering	mixed production programs	integrated captive shops	less than 50 people	50 to 99 people	1000 to 299 people	more than 300 people	complete tools	parts of tools	other products	grinding work	milling work	edm work	design work	other works
			a0	a1	a2	a3	a4	a5	a6	b1	c1	c2	c3	c4	d1	d2	d3	d4	d5	d6	d7	d8
2004	Canada	Am	110	33	55	5	*1	17	20	20	65	20	27	8	44	69	13		60	60	48	32
2004	USA	Am	207	34	19	34	34	85	24	0	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
2004	Japan	Asia	759	107	241	163 <sup>a</sup>	b	248	759	511	372	68	48	23	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
2004	Korea	Asia	22	7	13	0	0	0	2		17	2	2	1	11	15			17	13	12	
2004	Malasya	Asia	12	2	5	1	1	1	2	2	6	2	4		0	12	12		12	10	3	12
2004	Czech Republic	Eur	7	1	5				1			1	6			3			4	1	2	2
2004	Estonia	Eur	7	1	2	0	0	0	4	0	3	3	1	0	1	3	0		1		3	5
2004	Finland	Eur	19	2	10	1	1	2	3	11	12	6	1	0	1	5						
2004	France	Eur																				
2004	Germany	Eur	26	7	4	4	2	2	9	6	2	8	12	4	0	18	6		20	10	18	14
2004	Great Britain	Eur	5	1	4	0	0	0	1	1	3	2	0	0	0	5	5		0	0	1	2
2004	Italy	Eur	14	2	9				3		11	1	2									
2004	Portugal	Eur	25		24		1				12	3	4									
2004	Slovenia	Eur	15	5	7	0	0	1	2	4	6	3	6	0	14	1	0		14	13	15	1
2004	Switzerland	Eur	2	1	1								2			2			2		2	2
	Am		317	67	74	39	34	102	44	20	65	20	27	8	44	69	13	0	60	60	48	32
	Asia		793	114	254	0	0	248	761	511	389	70	50	24	11	15	0	0	17	13	12	0
	Asia w/Japan		34	9	18	1	1	1	4	2	23	4	6	1	11	27	12	0	29	23	15	12
	Eur		120	20	66	5	4	5	23	22	49	27	34	4	16	32	6	0	41	24	41	26

## A2: business figures and ratios

List of columns:

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a0	number of companies	total
i1	euros	turnover per employee
j1	euros	value added per employee
k1	percentage	value added as % turnover (sales)
l1	euros	total operating income per employee
n1	euros per hour	turnover per hour
o1	euros per hour	value added per hour
p1	euros per hour	total operating income per hour
q1	as % turnover (sales)	std parts for tools purchased from outside
q2	as % turnover (sales)	subcontract work
q3	as % turnover (sales)	material expenses
q4	as % turnover (sales)	total personnel costs
q5	as % turnover (sales)	operating profit
q6	as % turnover (sales)	EBITDA
q7	as % turnover (sales)	investment in machinery
u1	as % turnover (sales)	liquidity

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## A2. ISTMA 2004 Companies Survey - Economical and financial ratios

			number of companies															
				total	turnover per employee	value added per employee	value added as % turnover (sales)	total operating income per employee	turnover per hour	value added per hour	total operating income per hour	std parts for tools	subcontracting	material expenses	total personnel cost	operating profit	EBITDA	investment in machinery
			a0	i1	j1	k1	l1	n1	o1	p1	q1	q2	q3	q4	q5	q6	q7	u1
2004	Canada	Am	110	90	71	79%	n.a	55	43	n.a	n.a	10%	18%	37%	12%	n.a	0%	1,0
2004	USA	Am	207	159	96	60%	172	55	32	86	4%	7%	32%	48%	9%	9%	n.a	1,8
2004	Japan	Asia	759	177	59	33%	38	75	25									
2004	Korea	Asia	22	97	53	54%	101	36	20	30	8%	25%	43%	24%	21%	14%	3%	0,8
2004	Malasya	Asia	12	21	13	62%	23	7	4	8		2%	28%	5%	18%	23%		1,6
2004	Czech Republic	Eur	7	32	14	43%	30	19	8	16	8%	12%	24%	31%		12%	0%	1,1
2004	Estonia	Eur	7	26	11	45%	26	13	6	14	12%	2%	40%	39%	13%	13%	5%	1,7
2004	Finland	Eur	19	78	50	64%	78	42	25	40	9%	7%	11%	62%	3%	2%	5%	1,0
2004	France	Eur																
2004	Germany	Eur	26	113	69	61%	109	74	46	71	8%	12%	31%	42%	9%	9%	5%	1,2
2004	Great Britain	Eur	5	85	61	72%	86	45	33	46	7%	3%	29%	55%		9%	8%	1,5
2004	Italy	Eur	14	n.a	n.a		110	n.a	n.a	n.a	4%	10%	21%	43%	n.a	n.a	11%	1,0
2004	Portugal	Eur	25	62	29	46%	62	33	14	33	4%	15%	35%	40%	12%	14%	5%	0,9
2004	Slovenia	Eur	15	56	32	57%	66	33	18	37	6%	7%	18%	42%	7%	10%	9%	1,5
2004	Switzerland	Eur	2	148	74	50%	153	57	29	60	14%	27%	41%	40%	10%	10%	5%	1,3
			Am	317														
			Asia	793														
			Asia w/Japan	34														
			Eur	120														

## **B. Wages and salaries (May 2005)**

List of counms:

a0	number of companies	total
m1	hours	normal working hour per year
m2	hours	actual working hours per year
r2	percentage	benefits as % of wages and salaries
v1	wages per hour (euros / hour)	skilled mouldmaker, minimum
v2	wages per hour (euros / hour)	skilled mouldmaker, maximum
v3	wages per hour (euros / hour)	skilled mouldmaker, average
x1	wages per hour (euros / hour)	skilled tool and die maker, minimum
x2	wages per hour (euros / hour)	skilled tool and die maker, maximum
x3	wages per hour (euros / hour)	skilled tool and die maker, average
y1	wages per hour (euros / hour)	skilled designer, minimum
y2	wages per hour (euros / hour)	skilled designer, maximum
y3	wages per hour (euros / hour)	skilled designer, average
w1	wages per hour (euros / hour)	skilled operatot / programmer, minimum
w2	wages per hour (euros / hour)	skilled operatot / programmer, maximum
w3	wages per hour (euros / hour)	skilled operatot / programmer, average
z1	wages per hour (euros / hour)	skilled machine loader, minimum
z2	wages per hour (euros / hour)	skilled machine loader, maximum
z3	wages per hour (euros / hour)	skilled machine loader, average
aa1	salary per month (euros / month)	foreman, minimum
aa2	salary per month (euros / month)	foreman, maximum
aa3	salary per month (euros / month)	foreman, average



## C. Production and trade data (2004)

List of columns:

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		turnover (sales), million euros
		export, million euros
		import, million euros
e1	turnover (sales), million euros	tools for pressing, stamping or punching for metal work
e2	turnover (sales), million euros	moulds for plastics and rubber
e3	turnover (sales), million euros	moulds for metals
e4	turnover (sales), million euros	jigs and fixtrures
e5	turnover (sales), million euros	standard tooling components
e6	turnover (sales), million euros	precision machined parts
f1	export, million euros	tools for pressing, stamping or punching for metal work
f2	export, million euros	moulds for plastics and rubber
f3	export, million euros	moulds for metals
f4	export, million euros	jigs and fixtrures
f5	export, million euros	standard tooling components
f6	export, million euros	precision machined parts
g1	import, million euros	tools for pressing, stamping or punching for metal work
g2	import, million euros	moulds for plastics and rubber
g3	import, million euros	moulds for metals
g4	import, million euros	jigs and fixtrures
g5	import, million euros	standard tooling components
g6	import, million euros	precision machined parts

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**Exhibit:**

**Survey 2004, data collection form**

Country: \_\_\_\_\_

Association: \_\_\_\_\_

National currency: \_\_\_\_\_

Number of companies DIRECTLY affiliated in the association: \_\_\_\_\_

Number of regional or sub sector associations affiliated in the association: \_\_\_\_\_

Number of companies affiliated in the the regional or sub sector associations: \_\_\_\_\_

National currency: \_\_\_\_\_

Please fill the yellow boxes with the appropriate values.

**PART I**

Number of companies contributing to this survey: \_\_\_\_\_,

thereof number of companies that are **PRIMARILY**:

press tools manufacturers (press tools more than 70% of the turnover or sales)	
mould manufacturers (moulds more than 70% of the turnover or sales)	
manufacturers of jigs and fixtures (jigs and fixtures more than 70% of the turnover or sales)	
manufacturers of body dies (body dies more than 70% of the turnover or sales)	
precision machining companies (precision machining more than 70% of the turnover or sales)	

and

Number of companies with mixed production programs (press tools, moulds, body dies, ... together) (each less than 70%)	
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Number of integrated (captive) shops in all the previous classes	
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**Companies size:**

Number of companies with less than 50 employees	
Number of companies with 50 to 99 employees	
Number of companies with 100 to 299 employees	
Number of companies with more than 300 employees	

**Number of companies PRIMARILY purchasing these items from outside suppliers:**

Complete tools	
Parts of tools	
Others products	

EDM work	
Milling work	
Design work	
Other works	

**PART II**

**Benefits and Special Compensation, including**

Paid Leave: vacations, holidays, sick leave, and other leave

Insurance: life, health, short and long term disability

Retirement and Savings: defined benefit and defined contribution plans

Legally Required Benefits: Social Security, unemployment insurance, and workers compensation

Other Benefits: severance pay, unemployment benefits, and all additional compensation not mentioned elsewhere.

Total of benefits and special compensations as % of the paid wages and salaries	
--	--

**Wages (per HOUR in the national currency, excluding benefits and overtime)**

		<i>Minimum</i>	<i>Maximum</i>	<i>Average</i>
1	Skilled mouldmaker w/at least 5 years experience			
2	Skilled tool & die Maker w/at least 5 years experience			
3	Skilled designer w/at least 5 years experience			
4	Skilled machine operator/programmer w/at least 5 years experience			
5	Skilled machine loader/unloader w/at least 5 years experience			

**Wages (per MONTH in the national currency, excluding benefits and overtime)**

		<i>Minimum</i>	<i>Maximum</i>	<i>Average</i>
1	Foreman			

**Yearly working time:**

		hours
Total number of standard working hours per full time employee (as reported by companies)	16	
Total number of actual working hours per full time employee (calculated from R1/R4)	17	

See PART III next page

## PART III

### Business ratios

(A) If your association collected the business values (NOT ratios) for each company, please fill the next table and ISTMA secretariat will calculate the business ratios. Otherwise, go to (B), next page

For each variable please inform what is the TOTAL (accumulated) VALUE of all the collected responses,  
in your national currency.

Column (\*) indicate the definition of each top variable in the *ISTMA Business figures: definitions and explanations* document.

In the column # please indicate the number of companies / responses, IF DIFFERENT FROM THE TOTAL NUMBER OF COMPANIES CONTRIBUTING TO THE SURVEY (part I).

	<i>Variable</i>	<i>(*)</i>	<i>Total value</i>	<i>#</i>
V1	Turnover (sales, ex VAT)	1		
V2	Value added	5		
V3	Total operating income	2		
V4	EBITDA	13		
V5	Materials expenses	10		
V6	Standard parts for tools purchased from outside	8		
V7	Subcontract work	9		
V8	Investment in machinery and equipment	14		
V9	Personnel expenses	11		
V10	Total number employees	6		
V11	Total number of hours worked	7		
	Liquidity	15		

**(B) If your association collected the business RATIOS for each company, please fill the next table. Otherwise, go to A, previous page.**

Each ratio R is the calculated dividing the value of the top variable to the value of the under variable.

The units of the variables are the national currency or hours, as applicable.

Columns (\*) indicate the definition of each top and under variable in the *ISTMA Business figures: definitions and explanations* document.

<i>R</i>	<i>Top variable</i>	<i>(*)</i>	<i>Under variable</i>	<i>(*)</i>	<i>ratio</i>
R1	Turnover (sales, ex VAT)	1	Total number employees	6	
R2	Value added	5	Total number employees	6	
R3	Total operating income	2	Total number employees	6	
R4	Turnover (sales)	1	Total number of hours worked	7	
R5	Value added	5	Total number of hours worked	7	
R6	Total operating income	2	Total number of hours worked	7	
R7	Standard parts for tools purchased from outside	8	Turnover (sales, ex VAT)	1	
R8	Subcontract work	9	Turnover (sales, ex VAT)	1	
R9	Materials expenses	10	Turnover (sales, ex VAT)	1	
R10	Personnel expenses	11	Turnover (sales, ex VAT)	1	
R11	Operating profit	12	Turnover (sales, ex VAT)	1	
R12	EBITDA	13	Turnover (sales, ex VAT)	1	
R13	Investment in machinery and equipment	14	Turnover (sales, ex VAT)	1	

	Liquidity	15	
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Thanks for your cooperation.

Please return the form to ISTMA secretariat before 31.January.2006