MIM INDUSTRY BENCHMARKING

GUIDELINES 2025 – FOR YEAR 2024

NOTE: PARTICIPATION IS RESTRICTED TO EPMA MEMBER COMPANIES!
ANY ENTRY FROM NON-MEMBER COMPANIES WILL NOT BE CONSIDERED.
Please refer to the EPMA website for membership conditions.

SUMMARY OF DATA REQUIRED

Ref			
40	Average sales price		euro per kilo
41	Overall MIM-related sales with new parts		%
42	Productivity		euro per person
43	Production space utilisation		euro/sq metre
44	Inventory Stock turn		number
45	On time delivery		%
46	Customer returns		ppm
47	Overall Equipment Effectiveness		%
48	Training per employee		hours per person
49	Cost of non performing product after final stage		%
50	Energy usage		%
51	Total Tool Changeover Time		hours
52	Number of Direct Production Personnel		number
53	Gross yearly average wage		euros
54	Absenteeism		%
55	Participation of Production Personnel		number

Guidelines for completion

General notes

- *In many questions, you will have to select a range from a list of ranges. For instance, for Energy usage, we list: 0-3%, 4-7%, 8-10%, and over 10%. We had some feedback that in case the usage is, e.g., 3.4%, that seems not to find a correct place in the list. In that case, we indicate that a rounding "to the nearest integer" (in percentage) should be made, thus 3.4% would become 3% and fall in the first range, 3.8% would on the other hand fall in the second range being rounded to 4%.*
- *The total number of employees includes all personnel directly involved in and contributing to the site performance but should exclude all corporate staff and central company specialist areas such as a corporate R&D activity.*
- *Please respect the use of the dot for decimals, and avoid using the comma, even for indicating thousands.*
- *If your currency is different from Euro, please refer to Table 1 at the end of this document for the exchange rates to use to convert into €.*
- *In case of "out of range" responses, we will contact you for clarification.*
- *Do not hesitate to contact us in case of doubts (bv@epma.com).*

40 Average sales price

average selling price per kg
Unit: euros per kg
Definition: MIM parts sales turnover divided by total weight of parts that generated that sales turnover

41 Overall MIM-related sales with new parts

fraction of turnover which has come from new business
Unit: %
Definition: turnover of MIM parts made and sold from new moulds during the year as a fraction of total MIM parts turnover. This does not include minor modifications to old specifications.

42 Productivity - Value Added per Employee

Value added per employee is a financial measure that relates the value added to the product to the number of direct people involved in the conversion process
Unit: Euro/person
Definition: sales value of all MIM products manufactured in **(2024)** less cost of raw materials, bought out components, subcontracted processing, consumable stores, loose tools, repairs and maintenance of plant and equipment, heat, light and power, transport, packaging, production services and other purchased services (i.e. added value is the sum of profit, depreciation, rent and insurance, payroll and benefits, financial charges and administration overhead including in-house R&D) divided by the total number of employees (see Notes A and B below)
Note: in past years this has caused some confusion. Typical figures might be expected to be in the range 30 000 to 200 000 euros per person

43 Production Space Utilisation

Production space utilisation relates the plant space to the generation of sales and demonstrates how the effective use of space can reduce the fixed cost element of the unit
Unit: Euro per sq. metre (see Note B below)
Definition: sales value of all MIM products produced during **(2024)** divided by the total production space including all storage areas but excluding specialist R&D facilities etc. Areas currently not in use but already owned/constructed in view of future expansion should be included in the calculation.

44 Inventory Stock Turn

Inventory Stock Turn measures how frequently the stock, raw material, work in progress and finished goods are turned over in relation to the sales revenue of a product. Inventory levels are key indicators of the "leanness" of the process and are directly related to the simplicity of production flows.
Unit: number
Definition: sales value of all MIM products manufactured in **(2024)** divided by the appropriate* value of total inventory (raw materials, work in progress, finished goods). This indicator should be calculated on a calendar year basis i.e., from 1 January to 31 December. All products owned or controlled should be taken into account even if they are not physically located on site e.g., consignments stocks held at customers.
**(preferably average, but if this is not available, end of year)*

45 On time delivery

On Time Delivery measures how well a supplier matches the planned delivery requirements of the customer on a yearly basis
Unit: % - percentage
Definition: total quantity of MIM parts supplied during **(2024)** (defective parts included) against customer schedule (to be defined by each individual site/company) being the requirement, less
a) the quantity shipped early or late
b) incorrect quantity
For consignment stock: quantity late = (number of days below minimum agreed stock level) x (average customer consumption).
(Note: you may wish to ignore small orders)

46 Customer Returns

(product condition after shipment)
The number of Customer Returns is a measure of how the customers perceive the quality of the delivered products on a yearly basis
Unit: ppm (parts per million)
Definition: total quantity of unacceptable MIM products supplied to the customer and agreed as reject by both the customer and the supplier in **(2024)** - divided by the total quantity of MIM components delivered in **(2024)** to all customers - multiplied by one million.

47 Overall Equipment Effectiveness (OEE)

OEE is a total measure of performance that relates the availability of the process to productivity and quality. It shows how well the company is utilising resources, which include the equipment, the labour and the ability to satisfy the customer in terms of matching the quality specification.

Unit: %

Definition: OEE is the product of the theoretical availability of the equipment multiplied by its performance level and its quality rate, as per attached flowchart (see Note C below). The calculation is made for the average performance across key equipment within a plant (it is not intended that equipment not in volume or in normal production is included in the calculation of the average). The definition of "key equipment" being that equipment which is of major importance to the manufacturing capability of the plant, as defined per the relevant plant manager (normally sintering furnaces). The OEE should be average performance during **(2024)** for the relevant key equipment. See also the explanatory chart at the end of this document.

48 Training per Employee

average time spent on training each employee

Unit: hours per person

Definition: training per employee expressed as total training hours per year divided by number of employees. Employees are the same as those included in the productivity per employee calculation (see Note B below). Includes both external training courses and internal training courses.

49 Cost of non-performing after final stage

Cost of internal scrap + rework + credit notes divided by sales

Cost of internal non-conformities considers the costs arising from products or processes not in compliance with quality requirements. For ease of use, only defects found internally in the company are considered.

Unit: % percentage

Definition: total annual units in **(2024)** of internal scrap and internal rework plus credit notes issued for non conformities divided by the total annual manufacturing cost in **(2024)** and multiplied by 100. Internal scrap includes all defective products - resulting from faulty manufacturing or assembly that (1) does not meet quality requirements after being reworked and (2) reasonably cannot be used for any other purpose. The overall costs including labour, material and overheads must be considered. Revenues from selling scrap shall not be deducted. Internal rework encompasses the activities aimed at making a non-compliant product meet the quality requirements. Unsuccessful rework is also considered rework; it does however usually generate scrap costs in addition to rework costs. The manufacturing cost is defined as the sum of labour, machine costs, tool change costs and special costs on a yearly basis.

50 Energy usage

energy costs as % of total turnover
Unit: %
Definition: (Cost of electricity) + (cost of gas used for energy purposes only) divided by turnover

51 Total Tool Changeover Time

Unit: hours
Definition: measured from the moment whereon the previous production run stops up to the first "good" piece (green part to specification) is produced and full-scale production starts after the mould change. “Typical” value for the moulds used.

52 Number of Direct Production personnel

The figure refers to direct production personnel including line supervision, highly skilled and those with more general engineering training. Excludes maintenance, design and all other categories.

53 Gross yearly production personnel average wage

Unit: euros
Definition: gross salary in euros paid but excluding social costs.
Note: Typical figures might be expected to be in the range 30 000 to 45 000 Euros in Western Europe.

54 Absenteeism

This refers to personnel from production and all other departments including design, sales, and administration.
Unit: %
Definition: total number of hours lost for any reason without any exception divided by total legal working hours (but not including overtime) in **(2024)**.

55 Participation of production personnel

Unit: number
Definition: number of ideas per year received and implemented divided by number of production personnel.
Note: Typical figures might be expected to be in the range 0 to 6

Use of other currencies: exchange rates

The financial values in other currencies must be converted into Euro at a fixed exchange rate (rates on 31st December **(2024)**) in order to eliminate the effect of currency variations from the Benchmarking. Consult the table below.

Table 1 Exchange rates from the European Central Bank[1] for 31 Dec (2024))

Code	Currency	1€=
USD	US dollar	1.0389
JPY	Japanese yen	163.06
BGN	Bulgarian lev	1.9558
CZK	Czech koruna	25.185
DKK	Danish krone	7.4578
GBP	Pound sterling	0.82918
HUF	Hungarian forint	411.35
PLN	Polish zloty	4.2750
RON	Romanian leu	4.9743
SEK	Swedish krona	11.4590
CHF	Swiss franc	0.9412
ISK	Icelandic krona	143.90
NOK	Norwegian krone	11.7950
TRY	Turkish lira	36.7372
AUD	Australian dollar	1.6772
BRL	Brazilian real	6.4253
CAD	Canadian dollar	1.4948
CNY	Chinese yuan renminbi	7.5833
HKD	Hong Kong dollar	8.0686
IDR	Indonesian rupiah	16820.88
ILS	Israeli shekel	3.7885
INR	Indian rupee	88.9335
KRW	South Korean won	1532.15
MXN	Mexican peso	21.5504
MYR	Malaysian ringgit	4.6454
NZD	New Zealand dollar	1.8532
PHP	Philippine peso	60.301
SGD	Singapore dollar	1.4164
THB	Thai baht	37.973
ZAR	South African rand	20.3477

[1] https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/index.en.html

Overall Equipment Effectiveness (OEE)

OVERALL EQUIPMENT EFFECTIVENESS (OEE)