Session 9: New development in SBRs

Mainstreaming gender in business statistics and integration of business and trade

Regional Workshop on Statistical Business Registers and Industrial Classifications
25-27 June, Amman, Jordan

June 27 , 2024

Outline

- Common methodological aspects

- The Profile of Export Manufacturing Enterprises by sex
  - Features on the integration process
  - Main outcomes

- Subnational statistics: Exports by State
  - Features on the integration process
  - Main outcomes

- Conclusions and lessons learned

Common methodological aspects

Microdata linking (MDL) process

- INEGI has carried out MDL among several sources to elaborate new products with different breakdowns by using the SBR (RENEM by its acronym in Spanish)

- SBR merges statistical information from economic surveys, and several administrative registers, as well as the economic censuses

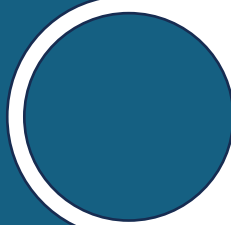- The statistical unit for linking business and trade is the enterprise

Microdata linking (MDL) process

- The enterprise which comprises more than one establishment, consolidates all of them under the same legal name, facilitating the linkage to Custom Declarations

- For producing subnational statistics (e.g., Exports by State), the consolidated enterprises are disaggregated by establishment

- MDL contributes to reducing the response burden to informants

SBR

SAT SERVICIO DE ADMINISTRACIÓN TRIBUTARIA
SHCP SECRETARÍA DE HACIENDA
Customs records
Monthly

Censos económicos
Economic Censuses
Quinquennial basis

Manufacturing, Maquila and Export Service Industry (IMMEX)
Monthly

EE
National Business Surveys
Annual and monthly

RENOM
REGISTRO ESTADÍSTICO DE NEGOCIOS DE MÉXICO

The Profile of Export Manufacturing Enterprises (PEME) by sex

Background

- Currently there has been an increasing demand for gender statistics, to support the formulation of public policies related to the sustainable development in countries

- INEGI takes advantage of the available data sources and MDL to produce linked business and trade statistics disaggregated by sex

- Since 2022, the Profile of Export Manufacturing Enterprises (PEME) includes the topic on employment in manufacturing enterprises that carry out foreign trade operations, distinguishing the sex of the employees

- PEME by sex is a tool for designing, monitoring, and evaluating public policies aimed at reducing the disadvantages faced by women

The Profile of Export Manufacturing Enterprises (PEME) disaggregated by sex, aims to provide statistics regarding foreign trade flows with the most representative economic variables of manufacturing enterprises, contributing to the measurement of international trade, as well as to the analysis and influence on production and the level of employment, particularly the participation of women and men in trade

Features on the integration process of PEME

Focus on Manufacturing Enterprises

The rich detail available in the data sources on manufacturing firms allowed to have a robust enterprise population data set on the manufacturing sector

Manufacturing is the most relevant activity in Mexican exports. During 2023 represented 89% of the total exports[1]
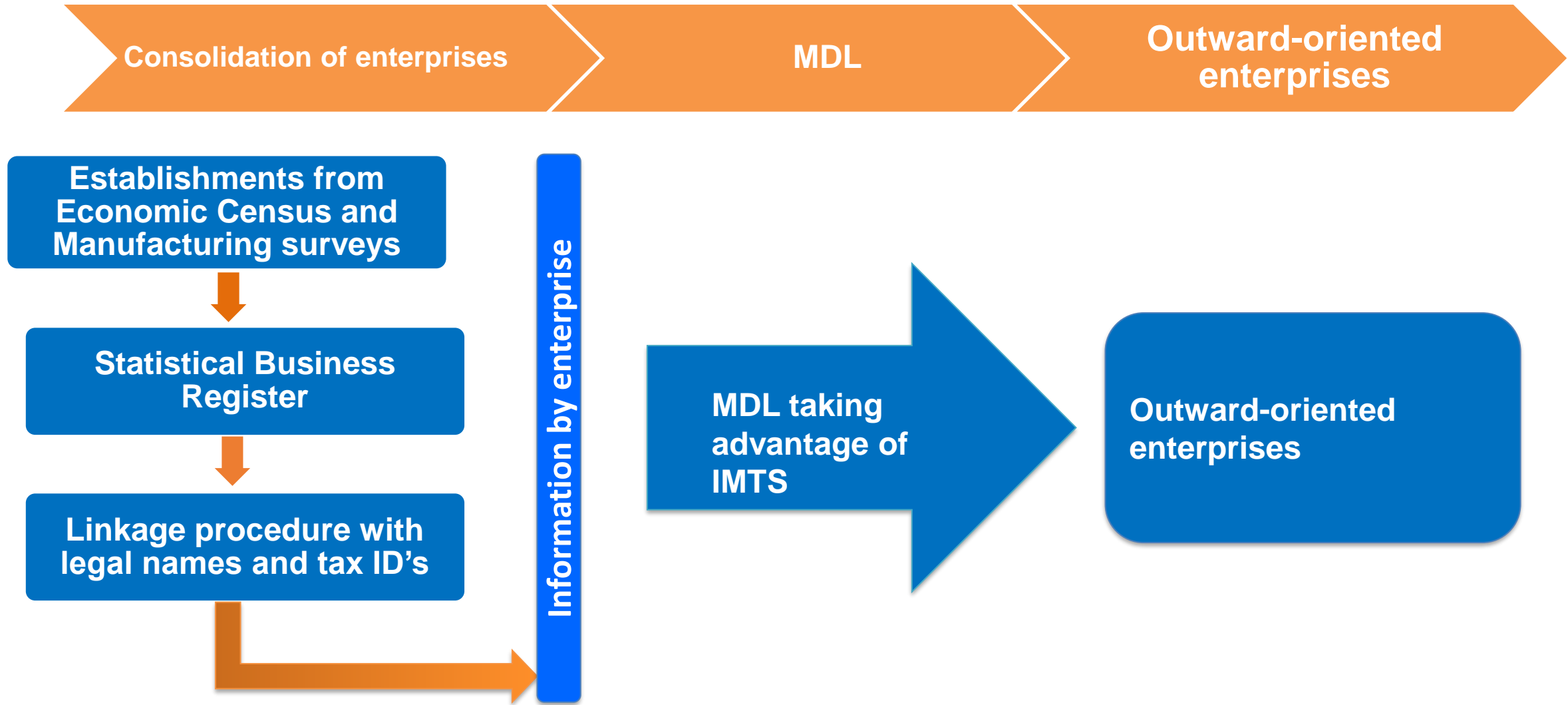
In 2018 the manufacturing industry accounted 23.9% of the total employee by private sector and public enterprises in Mexico[2]

[1] **IMTS of Mexico, INEGI, 2021. https://www.inegi.org.mx/temas/balanza/**
[2] **Economic Censuses 2019. INEGI, 2020. https://www.inegi.org.mx/programas/ce/2019/**

Integration process

| Consolidation of enterprises | MDL | Outward-oriented enterprises |

Establishments from Economic Census and Manufacturing surveys

↓

Statistical Business Register

↓

Linkage procedure with legal names and tax ID's

Information by enterprise

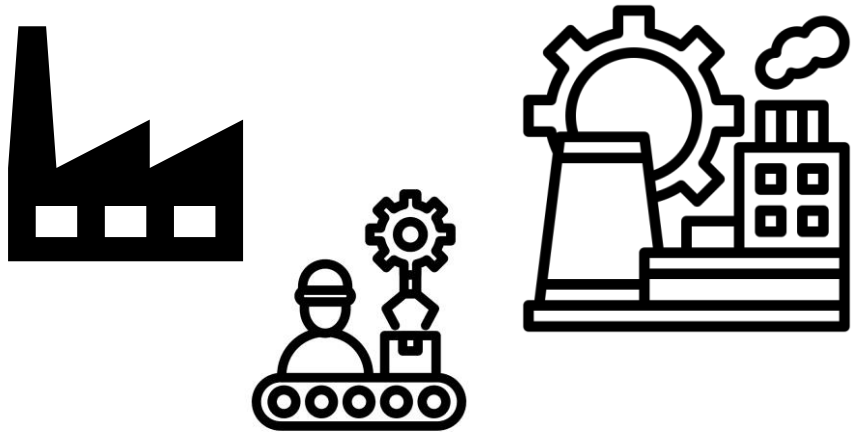**MDL taking advantage of IMTS**

Outward-oriented enterprises

Main variables of PEME

2018-2022, annual data P/

Number of Manufacturing Enterprises

Export and Import values

Number of employees by enterprise size → **NAICS sector and subsector (2 and 3-digit level)**

https://www.inegi.org.mx/temas/empresasman/

P/ **Preliminary figures**

Enterprise size according to number of employees

Total of employees

Women

Men
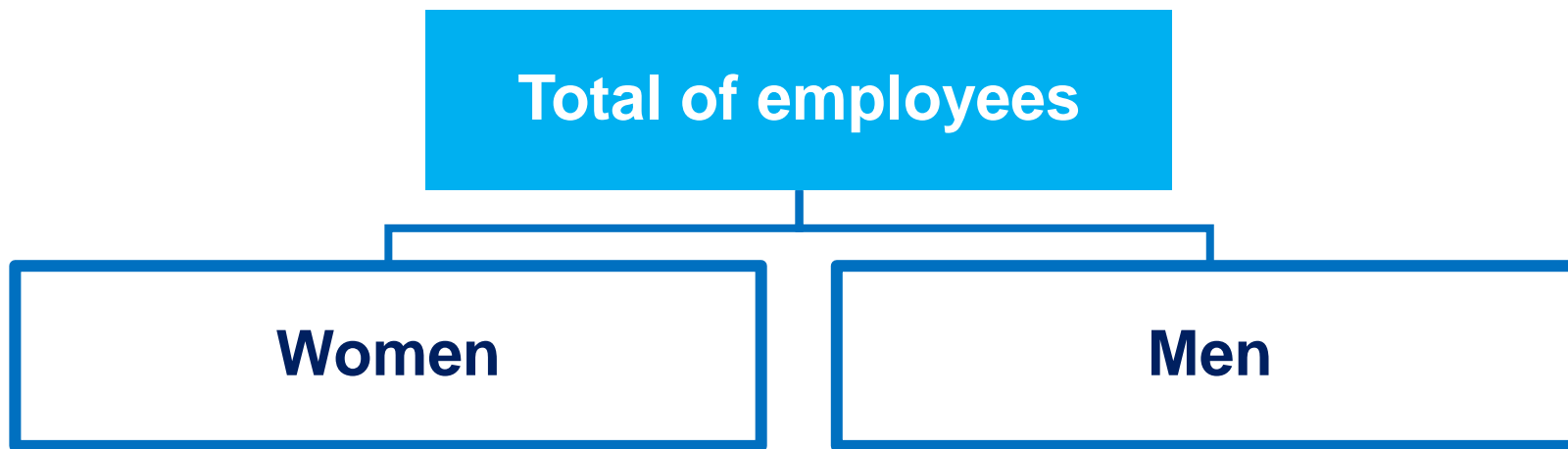
Enterprise size	Number of employees
Micro	1 - 10
Small	11 - 50
Medium	51 - 250
Large	251 - 500
Macro	501 or more

Employment variables in the Structural Business Statistics

Economic Censuses

Annual Survey of the Manufacturing Industry (EAIM)

Number of employees disaggregated by sex

Program of Manufacturing Industry, Maquila and Export Services (IMMEX)

Number of employees (Total)
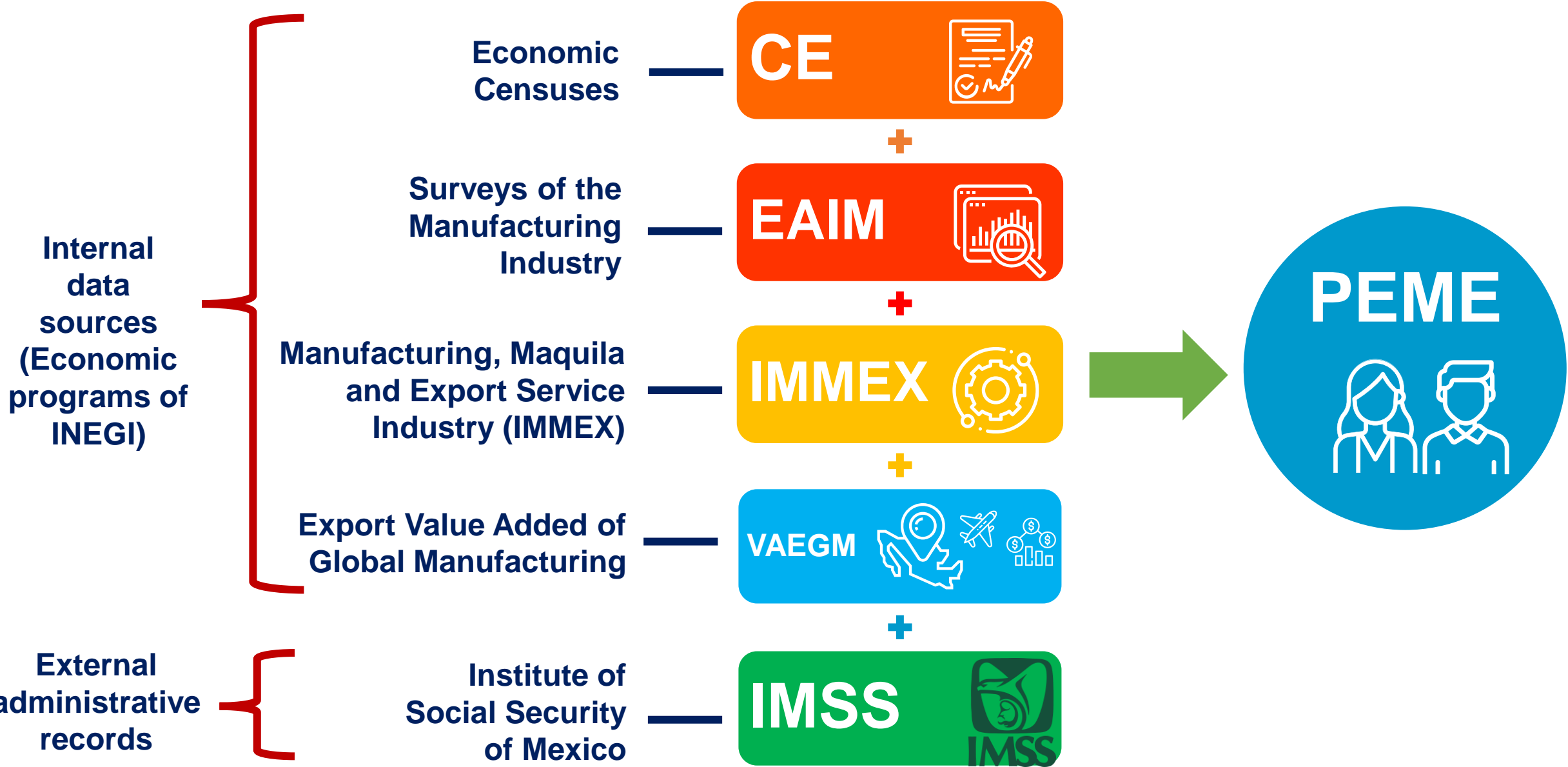
Disseminated variables

Main variables disaggregated by sex of the employees:

Total number of manufacturing traders by: Size and NAICS Sector and Subsector

Exporting Enterprises by: Size and NAICS Sector and Subsector

Importing Enterprises by: Size and NAICS Sector and Subsector

Data Validation

Internal data sources (Economic programs of INEGI)

Economic Censuses — **CE**

+

Surveys of the Manufacturing Industry — **EAIM**

+

Manufacturing, Maquila and Export Service Industry (IMMEX) — **IMMEX**

+

Export Value Added of Global Manufacturing — **VAEGM**

+

External administrative records

Institute of Social Security of Mexico — **IMSS**

→ **PEME**

Main outcomes of PEME by Sex

Women and men employed by manufacturing traders 2018 – 2022[P/]

Thousands of employees

Year	Women	Men
2018	1,473 (35.5%)	2,676 (64.5%)
2019	1,513 (35.9%)	2,707 (64.1%)
2020	1,482 (36.3%)	2,604 (63.7%)
2021	1,557 (36.9%)	2,662 (63.1%)
2022	1,619 (37.5%)	2,696 (62.5%)

■ Women ■ Men
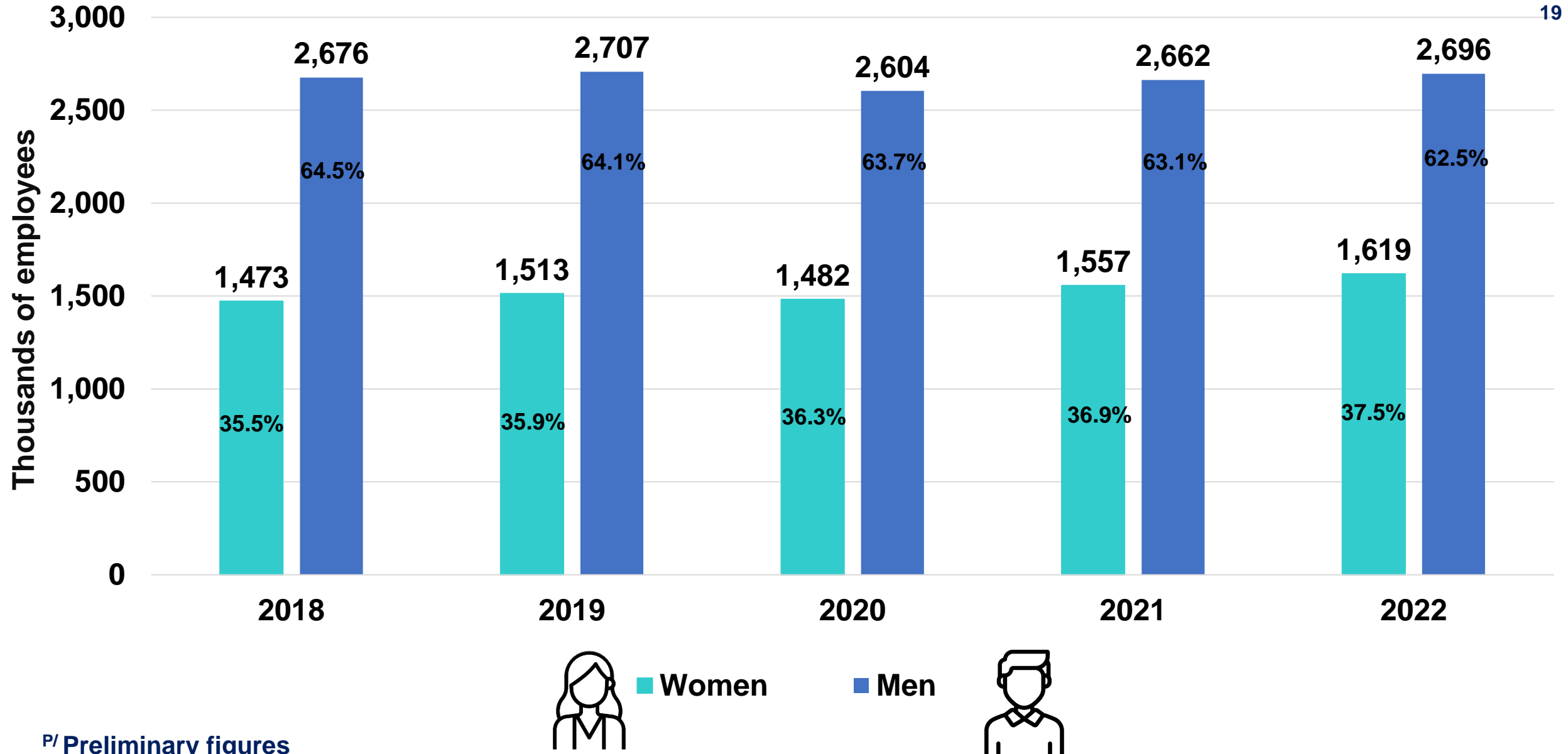
[P/] **Preliminary figures**

Participation rate by sex, size of the manufacturing trader firms (imports and/or exports), 2022

	Women	Men	20 Thousands of people
Total	1,619 (37.5)	2,696 (62.5)	4,315
Macro	1,344 (38.5)	2,150 (61.5)	3,494
Large	156 (34.8)	294 (65.2)	450
Medium	110 (32.1)	233 (67.9)	343
Small	7 (28.9)	19 (71.1)	26
Micro	.3 (29.4)	.7 (70.6)	1

■ Women   ■ Men
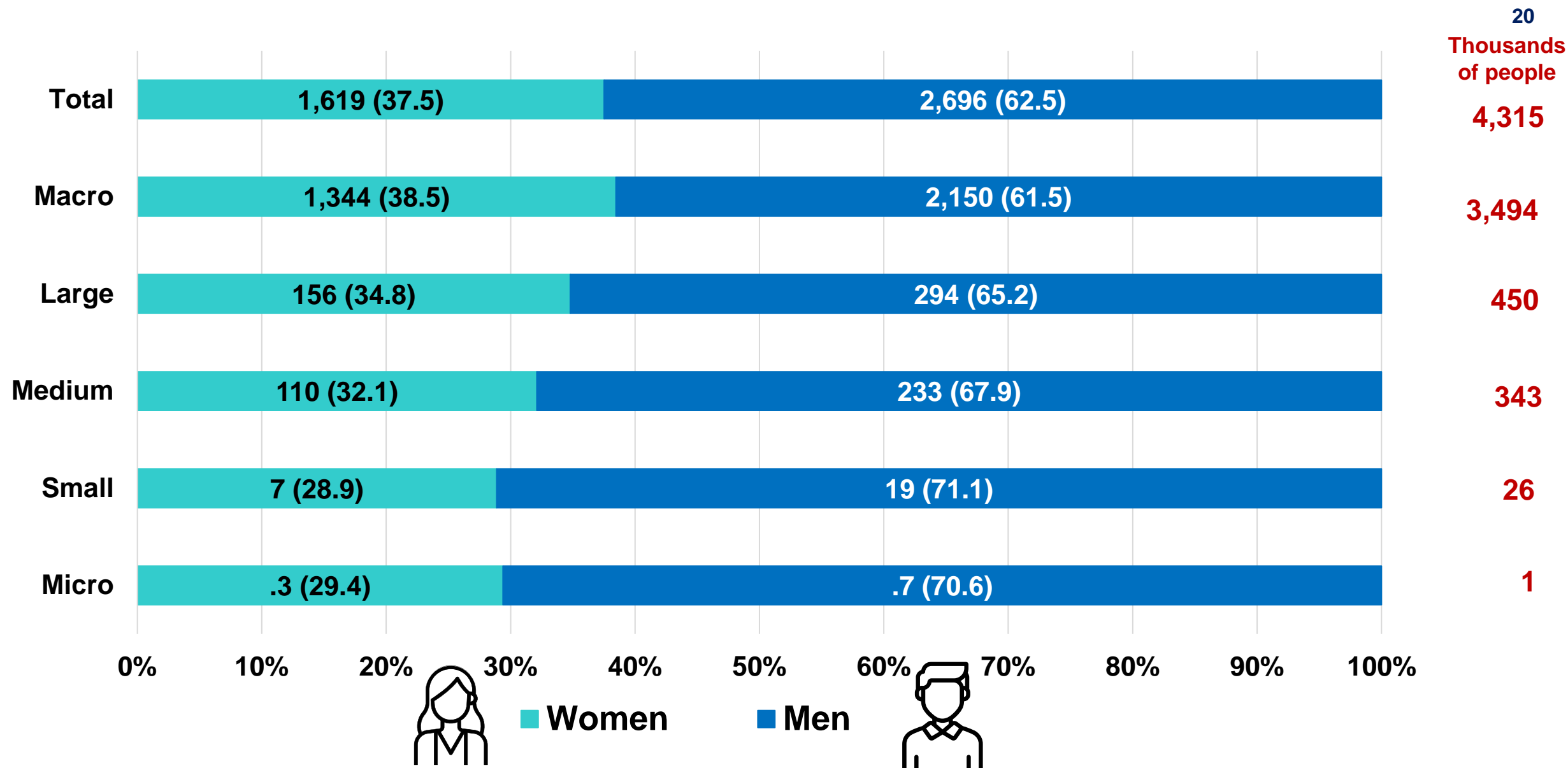
Distribution of women employed in manufacturing traders by NAICS subsector, 2022[P/]

Transportation equipment

28.22

Computer and electronics

13.83

Miscellaneous manufacturing

8.96

Food manufacturing

8.51

Other

8.06

Plastics and rubber products

7.97

Apparel manufacturing

4.01

Chemical Industry

3.93

Electrical Equipment

6.59

Metallic Products

3.86

Machinery

2.73

Paper Industry

1.72

Furniture

1.59
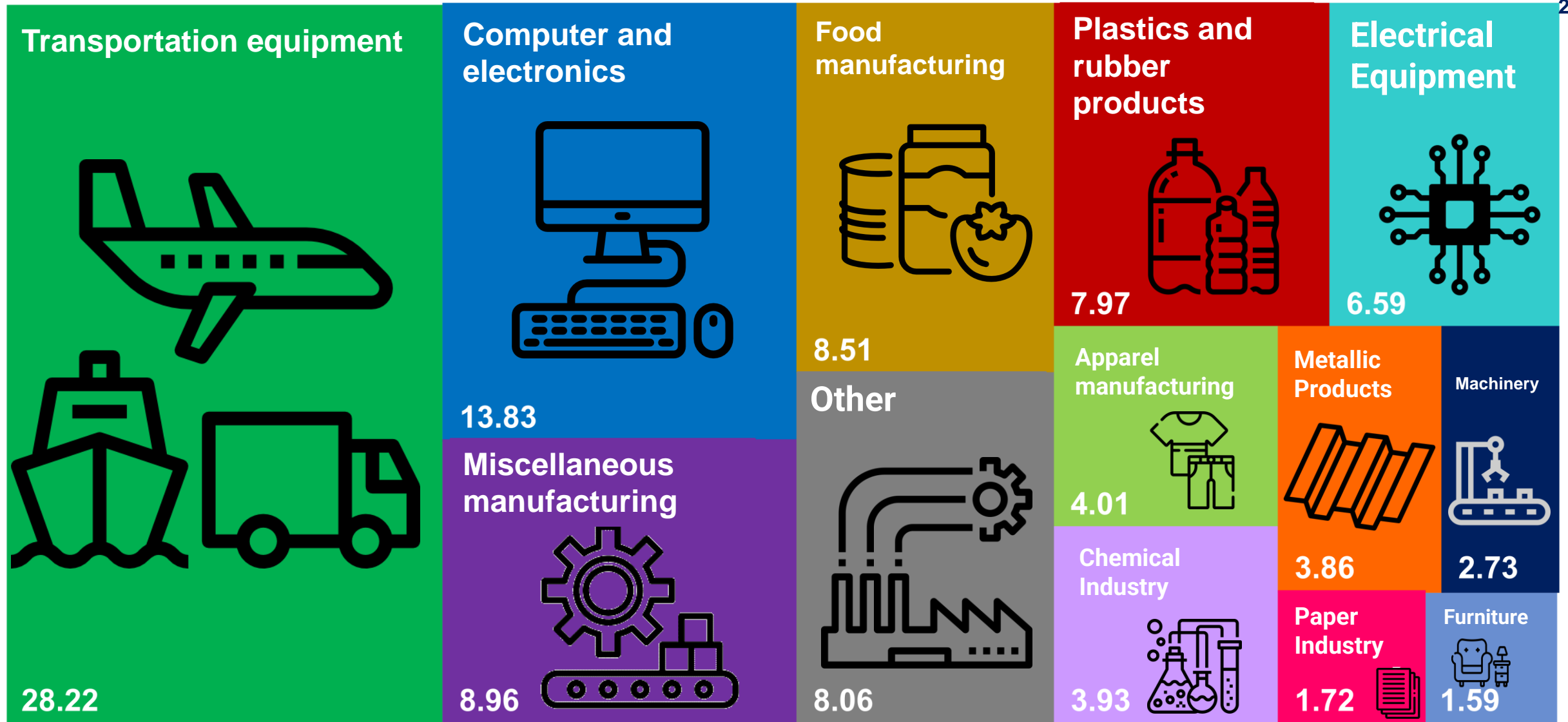
Women (Total) = 1,619 Thousands of employees   [P/] **Preliminary figures**

Distribution of men employed in manufacturing traders by NAICS subsector, 2022[P/]

Transportation equipment

28.29

Food manufacturing

10.44

Other

9.47

Computer and electronics

8.11

Plastics and rubber products

6.77

Electrical Equipment

5.72

Metallic Products

5.35

Miscellaneous manufacturing

4.77

Machinery

4.25

Primary metal

3.64

Chemical Industry

4.40

Nonmetallic Mineral

3.20

Paper Industry

2.80

Beverage and Tobacco

2.79
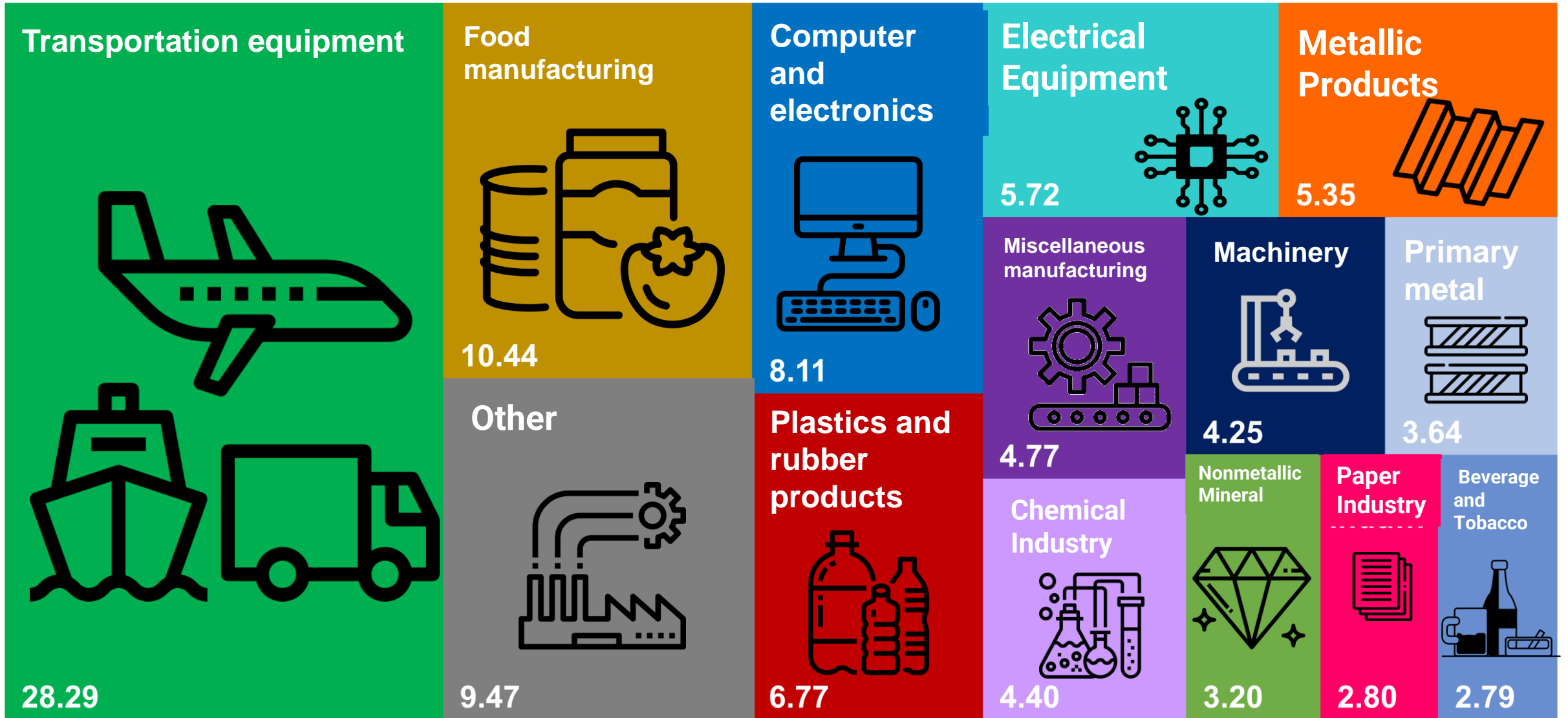
Men (Total) = 2,696 Thousands of employees

[P/] **Preliminary figures**

Participation rate in manufacturing traders by sex and NAICS subsector, 2022 P/

Thousands of people

NAICS subsector	Women	Men	Thousands of people
315 – Apparel Manufacturing	54.0	46.0	120
339- Miscellaneous Manufacturing	53.0	47.0	274
334 - Computer and Electronics	50.6	49.4	443
323 - Printing	43.7	56.3	36
314 – Textile Products Mills	42.8	57.2	32
326 - Plastics and Rubber Products	41.4	58.6	311
335 - Electrical Equipment	40.9	59.1	261
316 - Leather and Allied Products	39.8	60.2	50
336 - Transportation Equipment	37.5	62.5	1,220
325 – Chemical Industry	34.9	65.1	182
337 - Furniture	33.4	66.6	77

Total= 4,315
P/ Preliminary Figures

Women   Men

Subnational Statistics: Exports by States

Background

- In 2013 INEGI released data on the manufacturing enterprises engaged in international trade under the framework of PEME

- Likewise, derived from the need of producing subnational statistics to measure the exporting activity of Mexico, INEGI took advantage of the geographical information to be linked with the international trade statistics
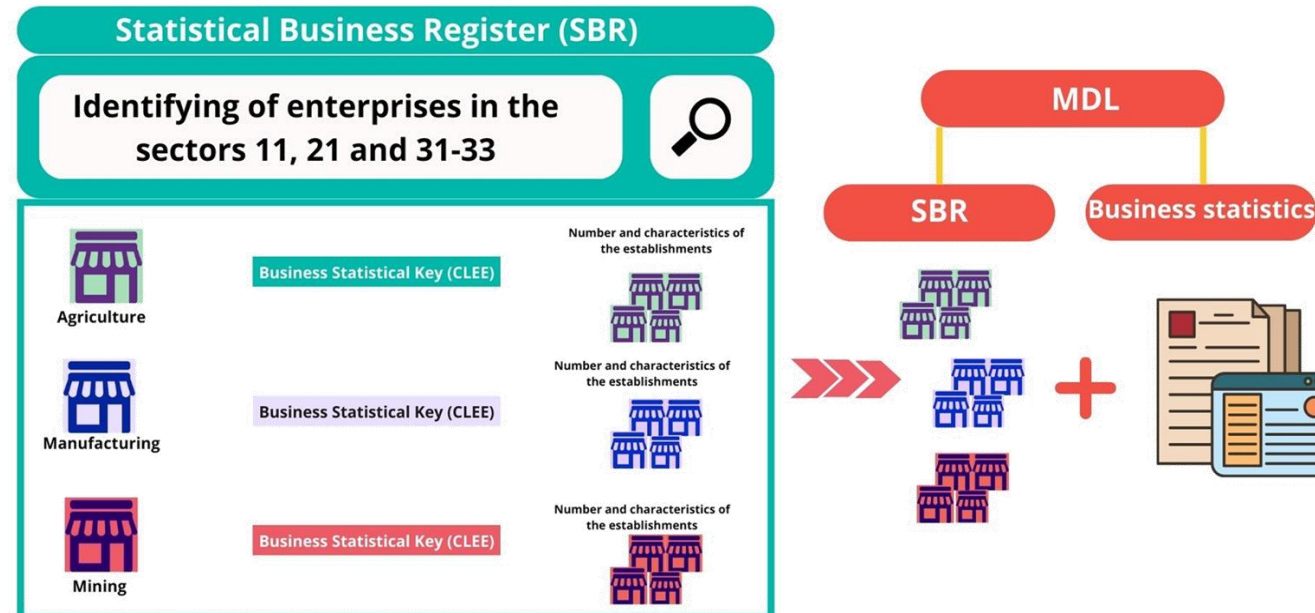
Objective

- Provide quarterly and annual information on the export value of goods of the 32 states of Mexico, as well as its contribution to the total foreign trade of the country with the rest of the world

Data sources

- The Statistical Business Register of Mexico (RENEM)
- Customs records
- Structural Business Statistics (SBS) :
  - ➢ Economic Censuses (on a quinquennial basis)
  - ➢ Business Surveys
    - Mining and Metallurgical Industry surveys (annual and monthly)
    - Manufacturing Industry surveys (annual and monthly)
    - Module for Enterprises in the Agriculture Sector, Manufacturing, Trade and Services survey (annual)
  - ➢ Manufacturing, Maquila and Export Services (IMMEX, by its acronym in Spanish) Statistics (annual and monthly)
  - ➢ Administrative registers from the National Hydrocarbons Commission

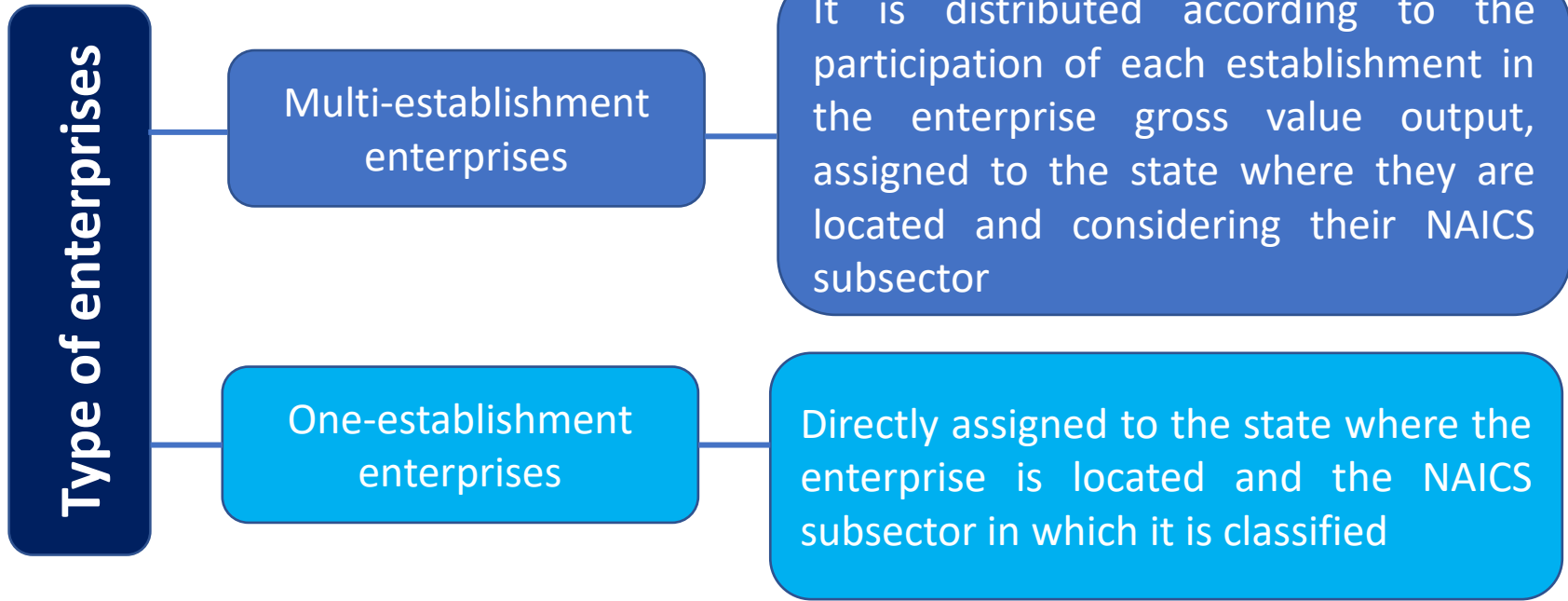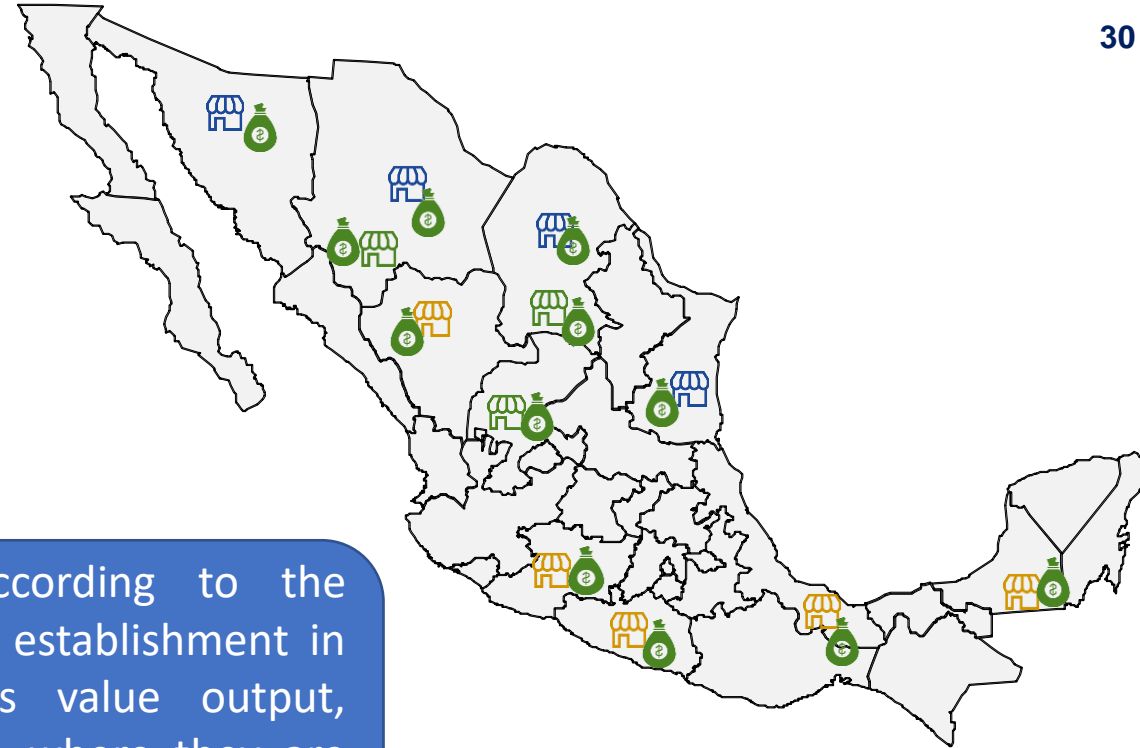# Features on the integration process in the Exports by States

MDL and production process

- The process starts with the identification of the export values, legal name, and Tax ID of enterprises that reported trade transactions in the International Merchandise Trade Statistics of Mexico and that have as main economic activities, Mining, Manufacturing, Agriculture, Forestry, Fishing and Hunting

- The identified enterprises with export values are tracked in the SBR to get their unique identifier, as well as the number and characteristics of the establishments that belong to them
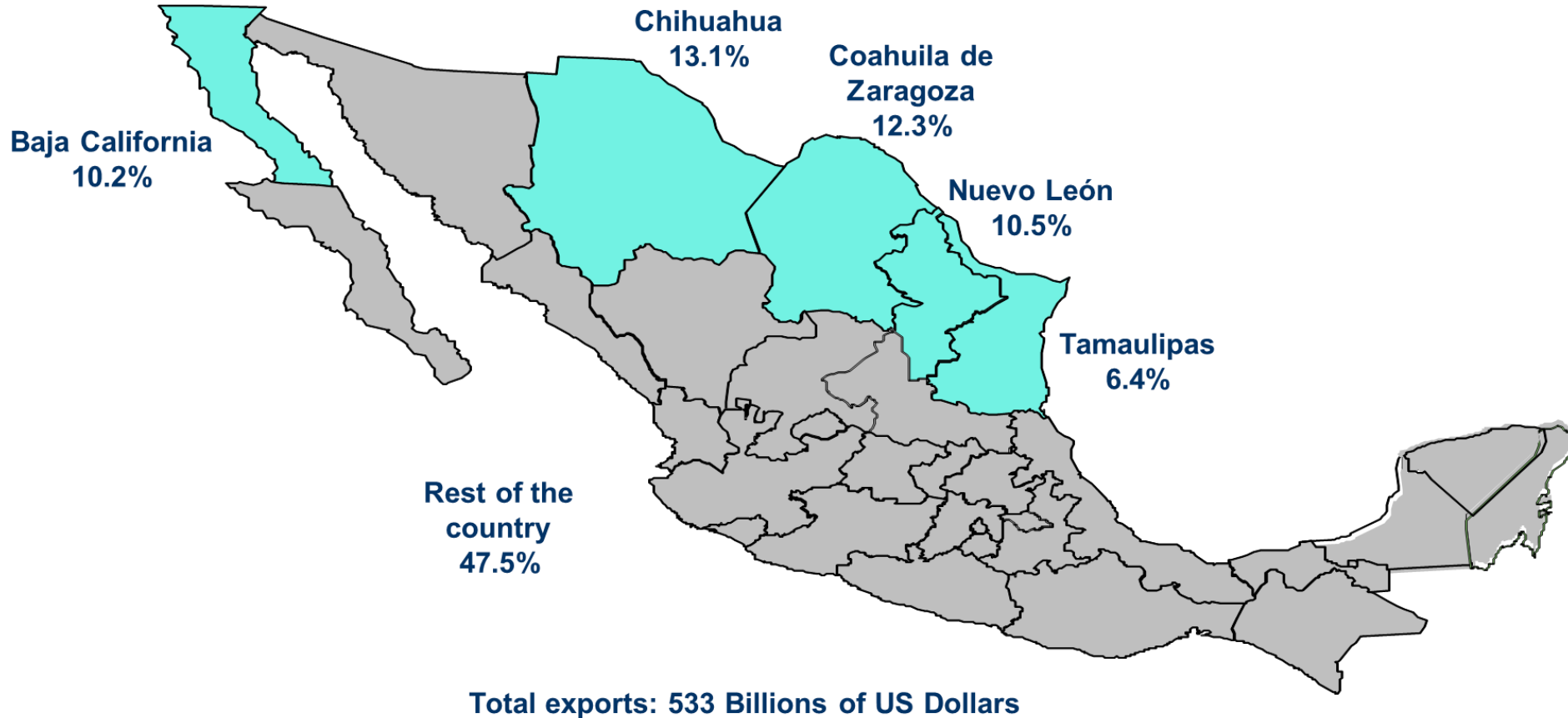
- Then, it is allocated the exports value of the identified enterprises to each Mexican state through the address information of their establishments

Type of enterprises

Multi-establishment enterprises

It is distributed according to the participation of each establishment in the enterprise gross value output, assigned to the state where they are located and considering their NAICS subsector

One-establishment enterprises

Directly assigned to the state where the enterprise is located and the NAICS subsector in which it is classified

Main outcomes of Exports by States

Share of exports by state, 2023

Baja California
10.2%

Chihuahua
13.1%

Coahuila de
Zaragoza
12.3%

Nuevo León
10.5%

Tamaulipas
6.4%

Rest of the
country
47.5%

Total exports: 533 Billions of US Dollars
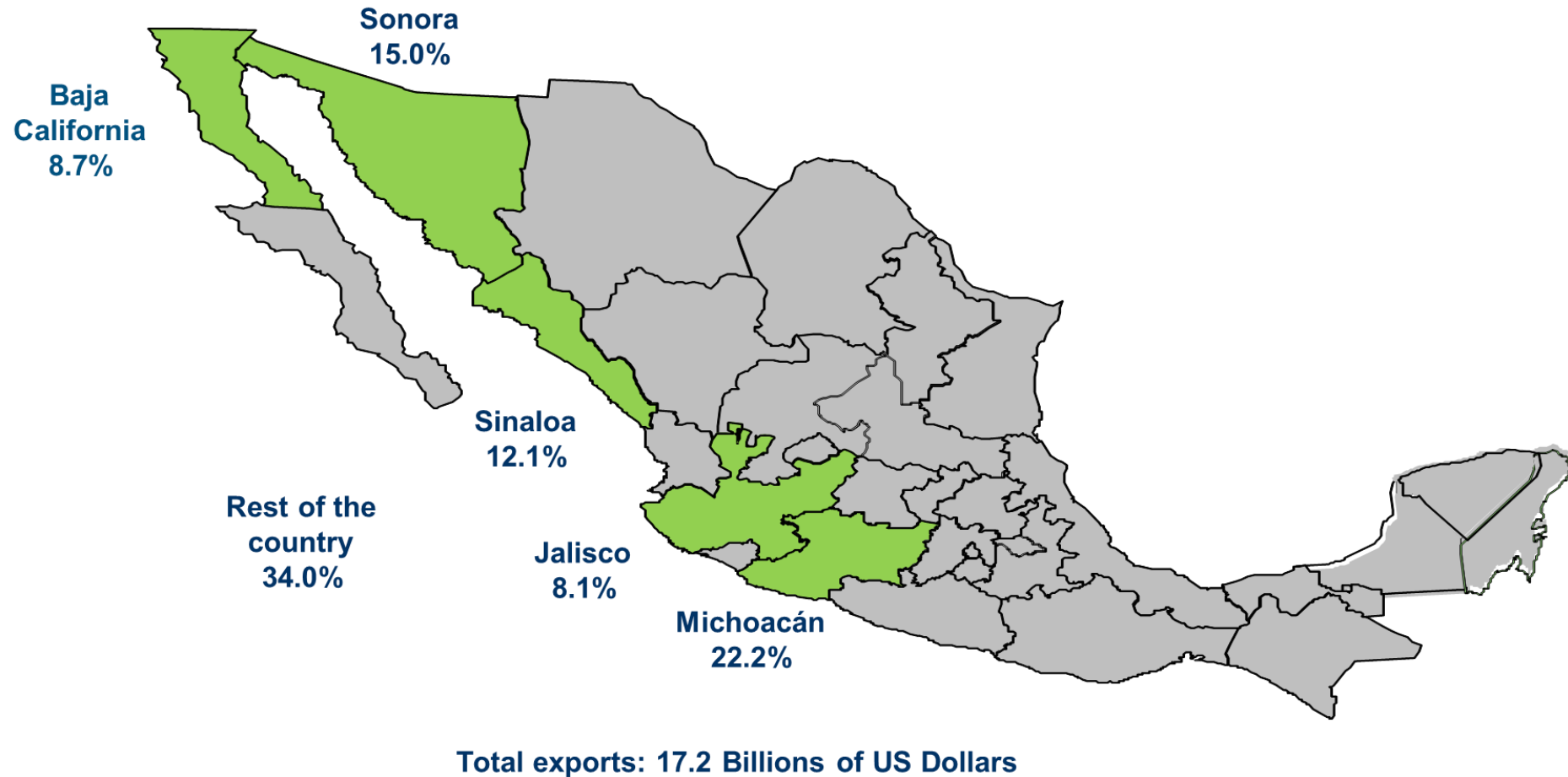
The states that reported the largest value of exports are those located at the northern border with The United States, accounting for more than half of the total exports (533 billions of USD): Chihuahua with 13.1%, Coahuila 12.3%, Nuevo Leon 10.5%, Baja California 10.2%, and Tamaulipas 6.4%

Sonora
15.0%

Baja
California
8.7%

Sinaloa
12.1%

Rest of the
country
34.0%

Jalisco
8.1%

Michoacán
22.2%

Total exports: 17.2 Billions of US Dollars

In the case of the agriculture subsector in 2023, five states accounted for 66% of the value of total exports: Michoacán, Sonora, Sinaloa, Baja California, and Jalisco

Ranking of the share of total exports by State

2007

States	USD billions	Share	Ranking
Baja California	31.9	13.4	1
Campeche	29.1	12.2	2
Chihuahua	28.1	11.8	3
Tamaulipas	22.5	9.5	4
Nuevo León	19.8	8.3	5
Coahuila	17.5	7.3	6
Jalisco	14.4	6.1	7
Sonora	13.0	5.5	8
México	8.6	3.6	9
Tabasco	8.3	3.5	10
Rest of the country	44.7	18.8	

2023

States	USD billions	Share	Ranking
Chihuahua	69.9	13.1	1
Coahuila	65.4	12.3	2
Nuevo León	56.0	10.5	3
Baja California	54.2	10.2	4
Tamaulipas	34.3	6.4	5
Guanajuato	33.4	6.3	6
Jalisco	27.2	5.1	7
Sonora	26.6	5.0	8
San Luis Potosí	22.9	4.3	9
México	22.9	4.3	10
Rest of the country	120.2	22.5	

Conclusions and lessons learned

Conclusions

- The use of MDL has allowed to analyze the participation of women and men in manufacturing enterprises that participate in international trade of goods

- PEME takes advantage of the standardization of concepts previously elaborated under business statistical programs enabling disaggregation by sex

- Figures derived from Exports by States represent a valuable tool for policymakers to support the design and evaluation of the effects of international trade on the production, employment, investment and how the domestic economic sectors in each state are engaged in the global supply chains

- INEGI continues exploring the use of several data sources and innovative tools such as the MDL to bring new products and further breakdowns in the current statistics, enabling less response burden and minimizing costs due to budget constraints

Thank You!

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