

Gender equality in STEM research careers: policies and actions in Europe

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1. **Context:** Women in Higher Education and Research;
2. **Policy:** Gender equity policies in the European Union;
3. **European universities** – examples of practices

Gender equality - why is it important ?

Values

- Social justice
- fundamental human right – United Nation's SDG
- founding value of the European Union

Gender-mixed research teams perform better

*“Gender-diverse teams produce more novel and
higher-impact scientific ideas”*

Yang Yang, Northwestern University (2022)

*“Creates better education and working
environments which help to attract, retain and
maximize talent*

EU Commission (2022)

Labor shortage in Europe

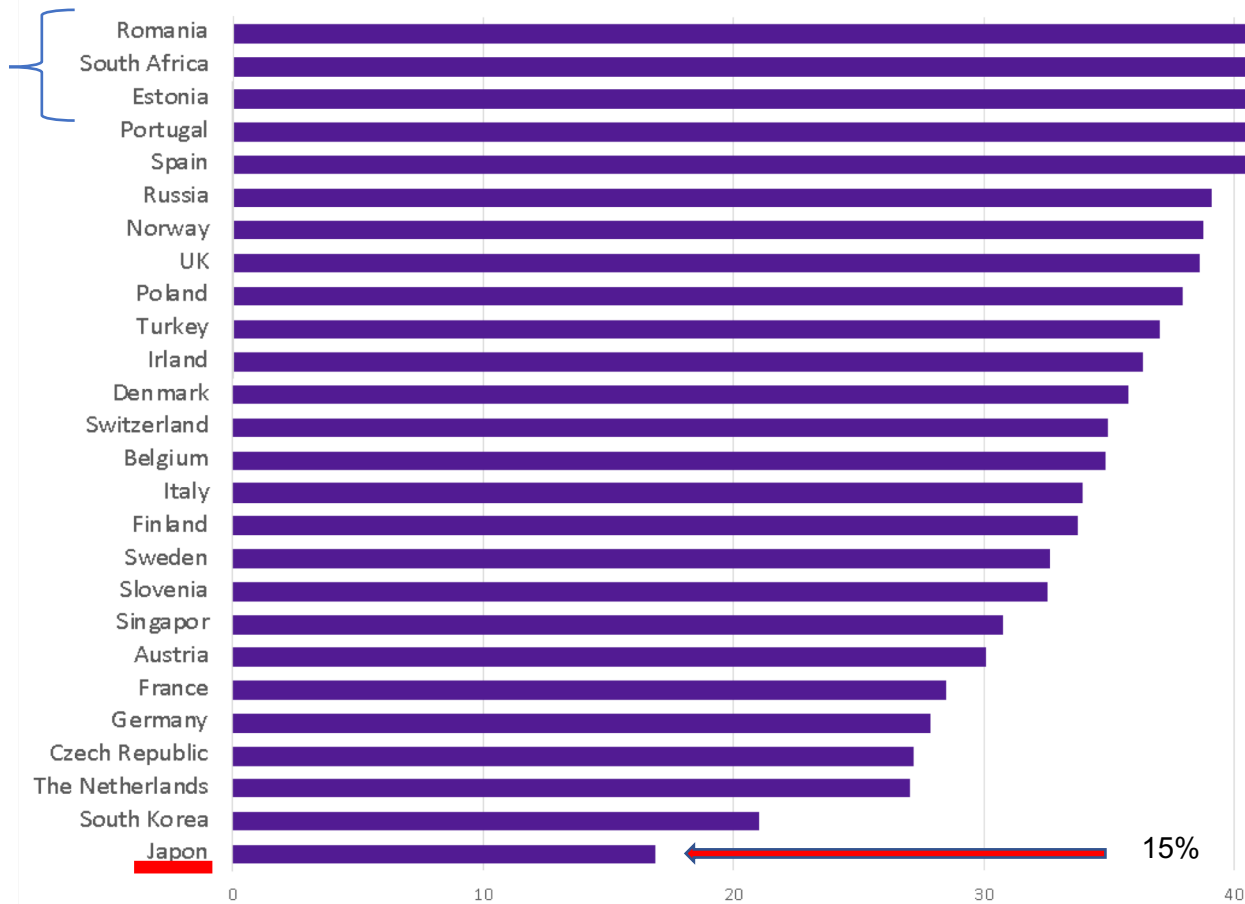
7 million
new STEM* jobs in
Europe by 2030

Source: Unesco, Crack the code report, 2017

* STEM: Science, Technology, Engineering and Mathematics

Part I: What do we know about women in research?

Number of women researchers as a % of total researchers (2018)



In many countries, women researchers are significantly under-represented.

Source: OCDE-PIST 2021-1
No data for Israel and the USA.

What do we know about female researchers and students in science?

Japan has the lowest percentage of female students majoring in natural science and engineering among OECD member countries.

Global



Japan



Percentage of women enrolled in higher education institutions (*)

	Natural sciences	Engineering
OECD average	52%	26%

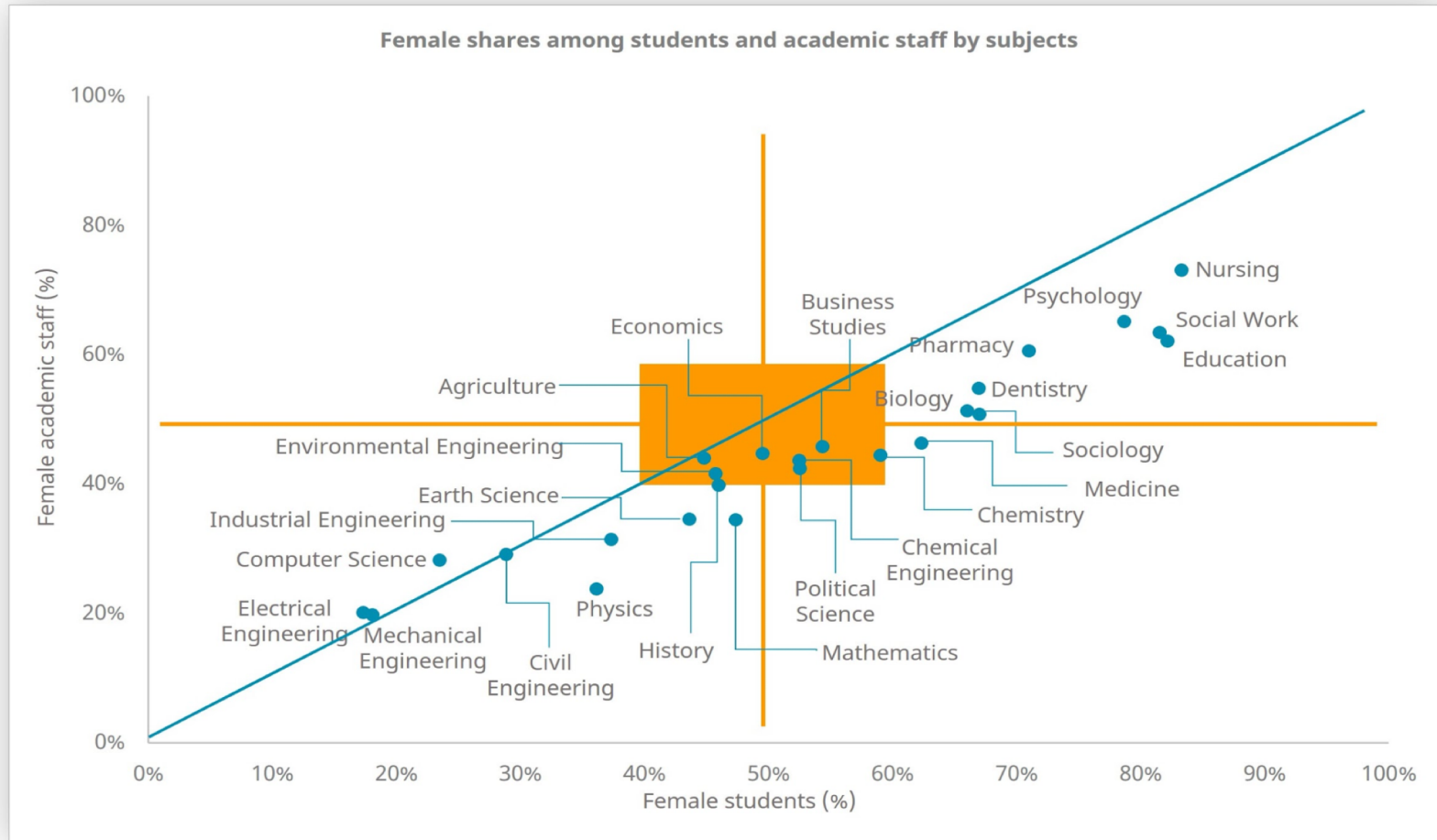
Natural sciences	Engineering
27%	16%

Lowest among OECD member countries

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Source(*): [Education GPS - Japan - Overview of the education system \(EAG 2021\)](#)

Female students in STEM (%), 2020



Source: U-Multirank Gender Monitor 2020.
 The analysis includes more than 1,000 institutions from more than 80 countries which provided comprehensive data on gender.

What are the facts...Are there solutions?

Gender equality in higher education

These barriers should be removed !

How to design a successful strategy?

Part II. European policy – Gender equality plan



* Horizon Europe is the EU's key funding programme for research and innovation

What is a Gender equality plan?

Gender in the ERA

To meet the eligibility criterion of Horizon Europe, a Gender Equality Plan **must** fulfil
4 mandatory requirements



What is a good gender equality plan ?

Visions, objectives, measures and targets

+ **Specific** (worded as concrete as possible);

+ **Measurable** (quantitative/ and or qualitative);

+ **Accepted** (supported by top and senior management);

+ **Realistic** (achievable with the defined timeframe & resources provided) + **Scheduled** (define a time frame)

Example of indicators

Vision	Objective	Target
Structural barriers for women's careers are abolished	Increase the share of women among newly appointed professors up to the share of women among applicants	Increase the share of women among newly appointed professors to X% by Y (date)
Women and men are equally represented in decision making	Increase the proportion of women in decision-making committees and boards	Increase the share of women on board A to X% by Y (date)
Gender is mainstreamed in the curricula	Increase the number of gender-related courses	Develop (#) gender-related courses in (#) disciplines by Y (date)
	Raise awareness of the relevance of sex/gender analysis among teaching staff	X% of teaching staff participating in gender training by Y (date)

Source: TARGET report

Part III. European universities: practices within the T.I.M.E. Association



Top International Managers in Engineering



www.time-association.org

IV – The case of the T.I.M.E Association

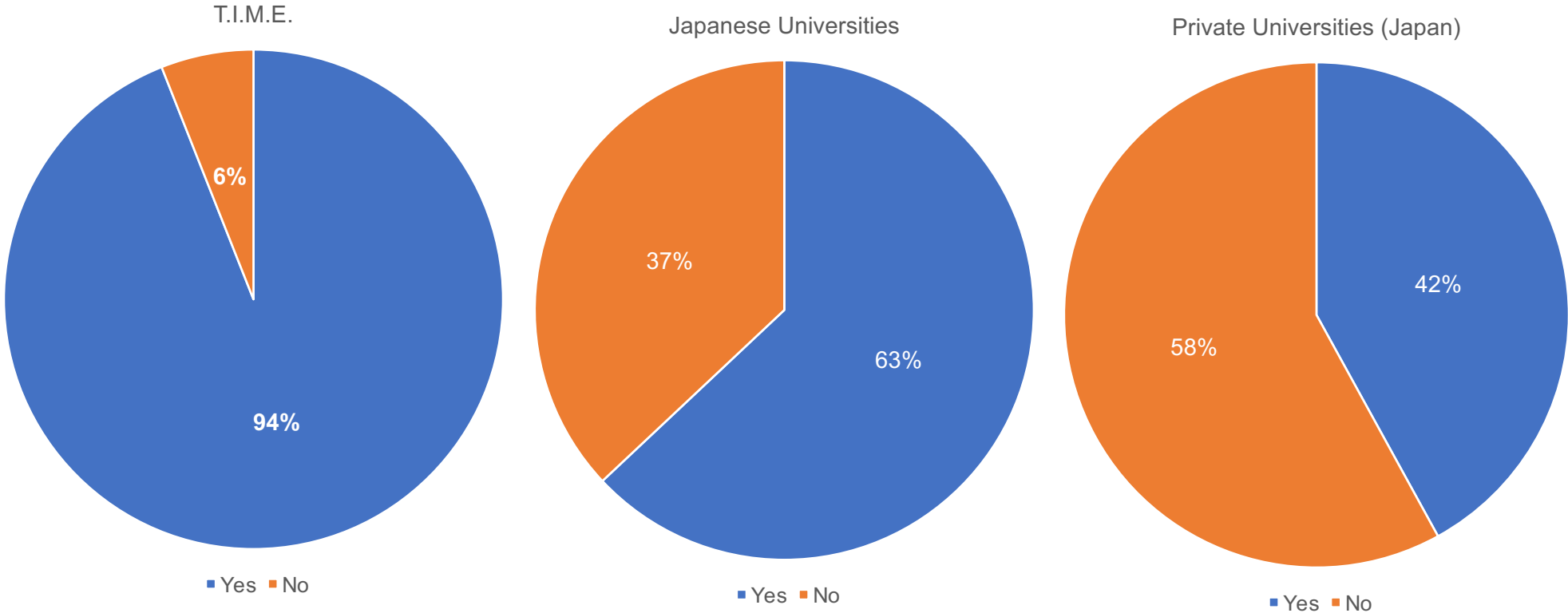
- **Survey (2022):** 45 questions
- **Target:** 16 T.I.M.E. Members (Australia, Belgium, Canada, Finland, France, Germany, Italy, Sweden, and Spain);

Results: 3 key themes

1. Promotion
2. Professional support
3. Education and Training

Promotion

Do you list the promotion of Gender Equality as a University/Corporate Policy on your Website ?



Source: T.I.M.E. Survey 2022 and National Diversity Network (2019)



Public document

Signed by top management website
Actively communicated within the institution

a Gender and Diversity Plan has been adopted in January 2022 by the board - it includes **21 measures on which the university has committed to** work in the coming years.



BELGIUM

The national action plan for professional equality between women and men 2021-2023, adopted jointly by the **MESRI** and the Ministry of National Education, Youth and Sports, is publicly available on their website;



**MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR,
DE LA RECHERCHE
ET DE L'INNOVATION**

*Liberté
Égalité
Fraternité*

FRANCE



Public document



Formal document published on their website

It includes the **gender equality audits**, the current **gender equality plan**. It was developed by the equality office and **approved by the university governing body**.

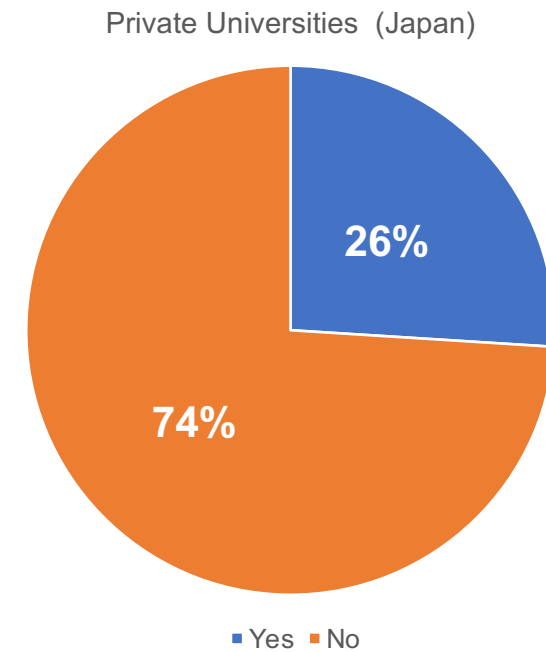
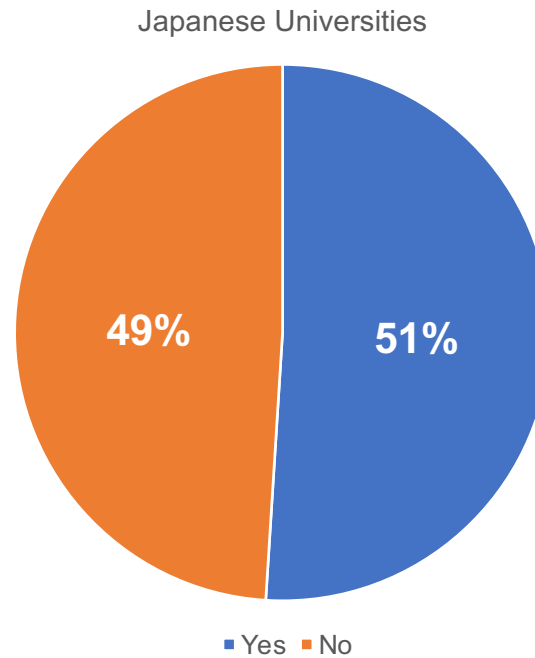
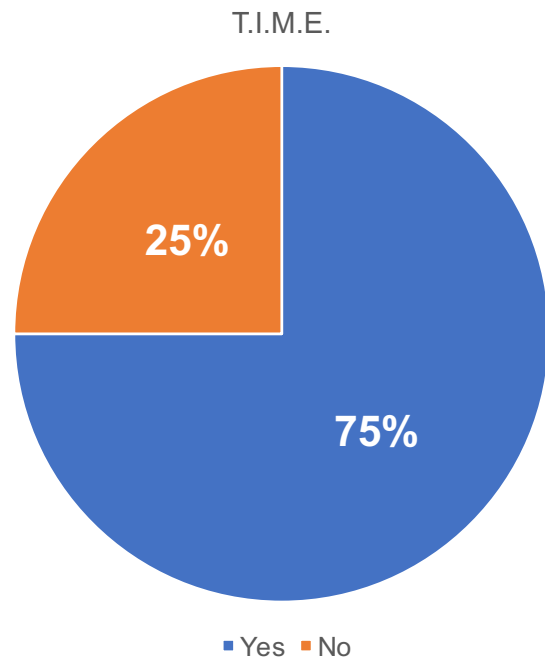


POLITECNICO
MILANO 1863

ITALY

Professional support

Do you have an organization within your university (including corporations and institutions) supporting female researchers and professors ?





Dedicated resources

Equality office

KTH, Sweden has established an permanent unit for the work with gender equality in the whole university



SWEDEN

The primary task of the Gender Equality Officer is to enforce real equality of women and men at TUM.

As a voting member the Gender Equality Officer **also takes part in the TUM Senate.**



GERMANY

Technische Universität München

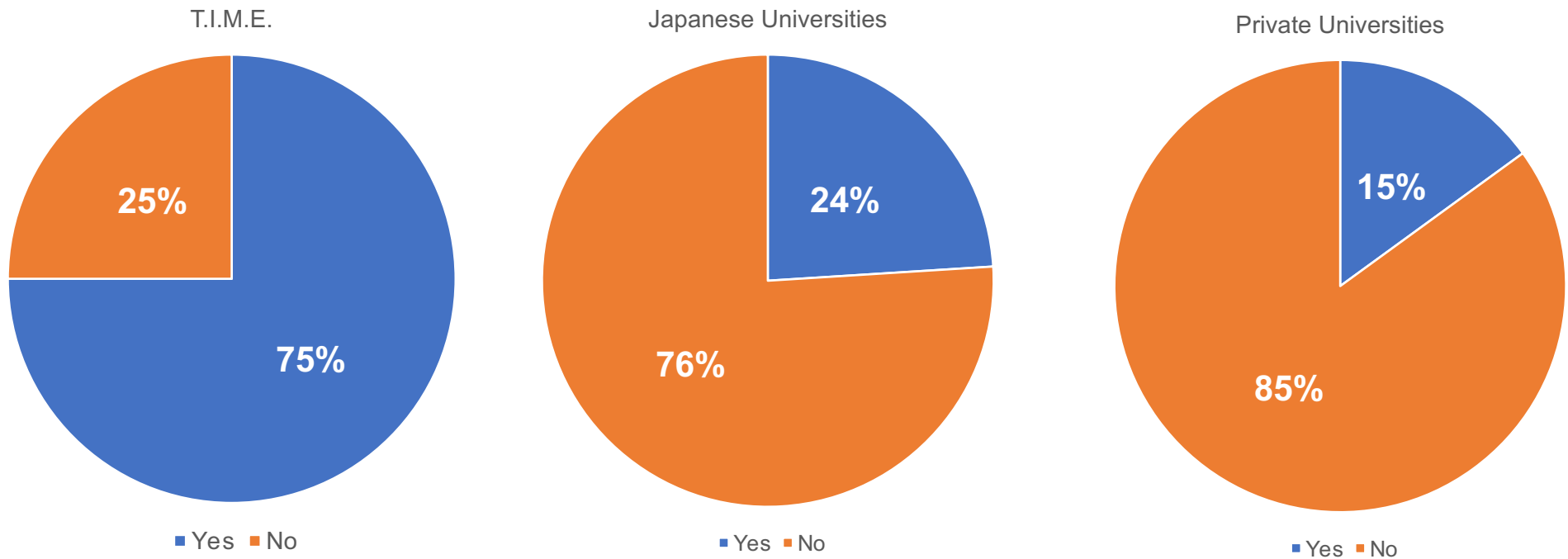
Decided in 2017 by the rector

In ULB, if women make up **33% of the staff at a certain level** (ex: lecturers), then at least **33% of people promoted to the level above** (e.g: professor) must be **women**



Training

Do you provide training or classes to make students and staff aware of "unconscious bias"?



Source: T.I.M.E. Survey 2022 and National Diversity Network (2019)

All KTH programmes on path to include equality and diversity education



Gender equality and diversity perspectives in technology have been introduced **into the curriculum of 50 mandatory courses** at all levels.



SWEDEN



Teaching/ Training



Christina Morillo / pexels

Support Program for Female Lecturers



Technische Universität München

=> proportion of women among full-time TUM professors from **9%** (2007) to **20.9%** (2020);

T.I.M.E. Members	Actions	Japanese Uni. (overall in %)	National	Public	Private
100	promote gender equality through symposia, seminars , and other events	52	81	41	34
94	list the promotion of gender equality as a university/corporate policy on the website	63	96	52	42
94	promote gender equality in collaboration with other universities , corporations, local businesses, and organisations	49	73	41	35
75	have an organization within their university (including corporations and institutions) supporting female researchers and professors	51	85	48	26
75	provide curricula and classes for students to develop female leaders	24	36	26	15
75	collect and display gender studies books in libraries and reference rooms	24	52	22	22
69	offer courses related to gender equality (e.g women studies,gender studies) to students	68	79	44	66
62	implemented positive improvement measures (positive actions) for women when promoting professors/researchers	82	58	86	90
56	provide curricula and classes for students to develop female leaders	18	16	19	19
50	implemented positive improvement measures (positive actions) for women when recruiting professors/researchers	61	9	70	81
50	implemented positive improvement measures (positive actions) for women when promoting professors/researchers	0	0	0	0

A few recommendations...

How to translate Gender equality as a priority?

More **data** and evidence;

Gender equality is a **solution** and MUST be in line with the **university's priorities** to:

- improve **learning** and **working conditions**;
- **attract**, retain, and maximise **talent**;
- through media presence and **positive image building**;
- to **gain legitimacy** at the international level

University Action Area 1: Leadership

A strong commitment from the **university's leadership**;

This commitment should be operationalised by a **Gender Strategy** (or Action Plan), which is often set within the wider **equality and diversity policy**;

University Action Area 2: Structures

Universities should set up **dedicated processes** and **structures** to coordinate the Strategy with the support of all divisions and levels within the university and managed professionally, for instance, through a dedicated structure such as a **Diversity and Equality Office**;

A commitment to gender should be backed up **with the necessary funding**.

University Action Area 3: Transparency

Successful implementation requires **transparency, accountability** and **monitoring** of gender equality at universities and improvement where needed;

Clear KPIs: **quantitative** (% of women) and **qualitative** (type of positions)

within **specific time limits** and leading to improvements along the entire career spectrum, not only in leading positions

University Action Area 4: Career Development measures



- Gender-specific career development measures

One example are **funding programmes** to award stipends for so-called 'protected time' freeing grantees from certain responsibilities and allowing them to focus on research in order to achieve a specific scholarly goal (e.g. a high impact publication or a competitive research grant);

Mentoring and **training programmes**

- Gender-neutral work-life balance measures to achieve good work-life balance conditions that benefit all researchers/all staff:

Sufficient child care provisions are essential for combining career and family obligations;



Using only half of the population, half of the ideas or half of the energy is not good enough. With the Gender Equality Strategy, we are pushing for more and faster progress to promote equality between men and women. ”

President of the European Commission, Ursula von der Leyen.



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ご清聴ありがとうございました

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