



# EU support to Gender Equality in Research and Innovation

(Gender) Diversity and Inclusion in Digital Humanism

DIGHUM Lectures

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# Fostering a “Union of Equality”

- A **Commissioner for Equality** (Helena Dalli) & internal **Task Force for Equality**
- [Communication on ‘A Union of Equality: Gender Equality Strategy 2020-2025’](#) (05/03/20)

R&I and Horizon Europe are explicitly addressed, with new measures announced, including:

- The possibility to require a gender equality plan from applicants
- Initiatives to increase the number of women-led tech start-ups (EIC)
- Provide new insights into **gender biases in AI**



5 more strategies adopted:

- [EU Anti-racism Action Plan 2020-2025](#) (18/09/2020)
- [EU Roma strategic framework for equality, inclusion and participation](#) (07/10/2020)
- [LGBTIQ Equality Strategy 2020-2025](#) (12/11/2020)
- [Gender Action Plan III – a priority of EU external action](#) (25/11/2020)
- [Strategy for the Rights of Persons with Disabilities 2021-2030](#) (03/03/2021)

# Commission White Paper on Artificial Intelligence (19/02/2020)

- Sets out the European approach on trustworthy and secure development of AI, grounded in **EU values and fundamental rights**, including **non-discrimination**
- Potential risks: perpetuating or even stimulating bias if data to train algorithms does not reflect the diversity of EU society.
- Skills development under the Digital Europe Programme and in line with the Digital Education Action Plan
- Forthcoming proposal on **new legislative framework on AI** → safeguard fundamental EU values and rights and user safety
- [https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020\\_en.pdf](https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf)

New Communication adopted on  
30 September 2020



# The new European Research Area



#ResearchImpactEU #EUResearchArea



## ERA Priority 4: Gender equality and gender mainstreaming in research

Three objectives

- Gender equality in scientific careers at all levels
- Gender balance in decision-making bodies and positions
- Integration of the gender dimension in research and innovation content (sex and gender analysis)

Three levels

- Member States and Associated Countries
- Stakeholders: Research Performing Organisations /Research Funding Organisations – RFOs
- European Commission

→ *A common approach:  
institutional change*

# She Figures 2021 preliminary data

- Across all fields, women represent **48.1% of EU graduates at doctoral level**.
- The gap between men and women is wider in **ICT fields**, with women comprising **22.4% of doctoral graduates** at EU-27 level, and **29.4%** in Engineering, manufacturing & construction.
- In the tech sector, only **2 in 10 ICT specialists are women**
- Women registered as inventors for patent publications: **9%**

Publication ahead of R&I Days 2021 →



She Figures 2021  
under preparation

# NEW ERA : Gender Equality to strengthen the European R&I potential

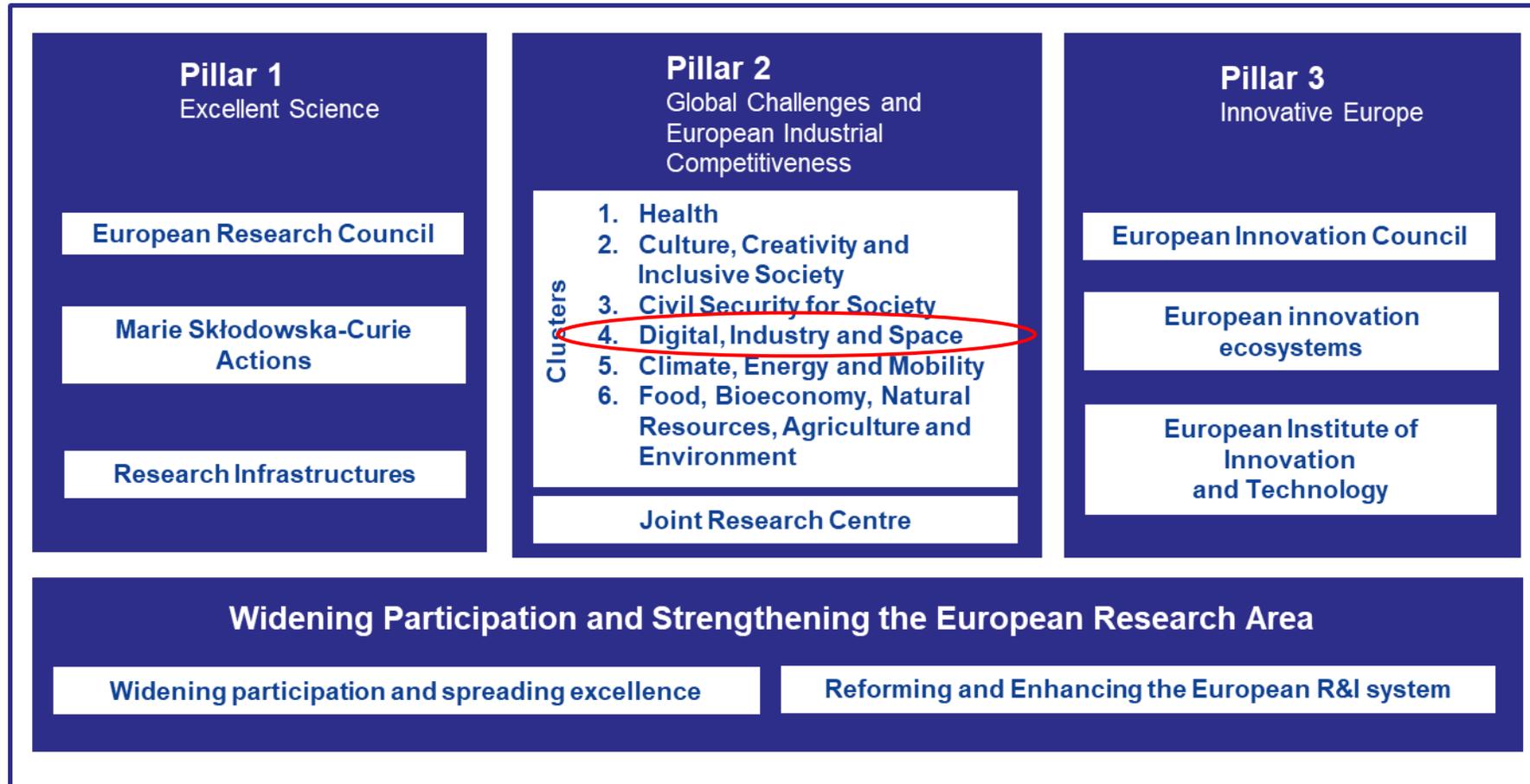
- Persisting gender inequalities in European R&I systems hinder the ERA's potential
- “There is also a need to address diversity by opening policy to intersections with other social categories, such as ethnicity, disability (including accessibility and inclusion) and sexual orientation, as well as gender-based discrimination and violence in R&I organisations”

The Commission will:

12. Propose as of 2021, in line with the Horizon Europe programme objectives, the development of **inclusive gender equality plans** with Member States and stakeholders in order to promote EU gender equality in R&I

# Horizon Europe

# Horizon Europe



→ Strategic Plan adopted 15 March 2021

→ Work Programmes 2021-2022 foreseen to be adopted in May 2021

# Strengthened provisions for Gender Equality in Horizon Europe (1)

- **Article 6a.5 (Principles of the Programme) of the Framework Regulation:**

“The Programme shall ensure the **effective promotion of equal opportunities for all**, and the implementation of **gender mainstreaming**, and of **the gender dimension in the research and innovation content** and shall aim to address the causes of gender imbalance. Particular attention shall be paid to **ensuring to the extent possible gender balance**, in evaluation panels and in other relevant advisory bodies such as boards and expert groups.

- **Eligibility criterion:** Applying public bodies, research organisations and higher education establishments, from EU Member States and Associated Countries, will need to have a **Gender Equality Plan** in place

# GEPs : co-created building blocks

## Mandatory process-related elements

### PUBLIC DOCUMENT

- formal document signed by the top management,
- published on the institution's website and disseminated widely within the institution.

### DEDICATED RESOURCES

- Earmarked funding could be available for staff positions such as "Equality Officers" or "Gender Equality Teams".
- Organisations may reserve working hours of existing staff (academic, management, HR) for equality work.

### DATA COLLECTION AND MONITORING

- sex/gender-disaggregated data collection across all staff categories.
- Annual reporting of gender imbalances across job categories & leadership positions.
- comprehensive evaluation approach.

### TRAINING & CAPACITY BUILDING

- e.g. tackling unconscious gender bias among staff and decision-makers
- information and dissemination material, workshops,
- or working groups dedicated to specific topics.

# Recommended areas to be covered by GEPs:

- ✓ **work-life balance and organisational culture**  
**Examples:** Parental leave policies, flexible work-time arrangements.
- ✓ **gender balance in leadership and decision-making**  
**Examples:** Introducing gender quotas for evaluation panels or decision making bodies.
- ✓ **gender equality in recruitment and career progression**  
**Examples:** Unconscious bias training for HR managers, inclusive language for job vacancies, fair evaluation for employees.
- ✓ **integration of the gender dimension into research and teaching content**  
**Example:** Get inspiration from the case studies and methods developed by the [EC “Gendered innovations” Expert Group](#)
- ✓ **measures against gender-based violence including sexual harassment**  
**Example:** Having in place a code of conduct or an intervention protocol in case of complaints.  
→ See [GEAR Tool](#) and project **UniSAFE**

# Strengthened provisions for Gender Equality in Horizon Europe (2)

- **Article 2 of Specific Programme sets gender is a cross-cutting priority**
  - “The Specific Programme has the following operational objectives:  
(ca) **strengthening the gender dimension across the Programme**”
- **Mandatory integration of the gender dimension into research and innovation content** across the Work Programmes, **by default**, unless it is duly justified that sex and/or gender aspects are not relevant
  - Evaluation criterion for RIA/IAs and Cofunds, under the *Excellence* criterion (Methodology)

# Sex and Gender

**SEX** refers to the **biological attributes** (functions deriving from chromosomal complement, reproductive organs, or specific hormones or environmental factors that affect the expression of phenotypic traits in sexually reproducing organisms) that distinguish male, female, and intersex (in humans) or hermaphrodite (non-human animals). **In engineering and product design research**, sex includes anatomical and physiological characteristics that may affect the design of products, systems and processes.

**GENDER** refers to **socio-cultural norms, identities and relations** that, together, shape and sanction “feminine” and “masculine” behaviours, structure societies and organisations, and also affect products, technologies, environments, and knowledge. Gender is complex and changes in time and place.

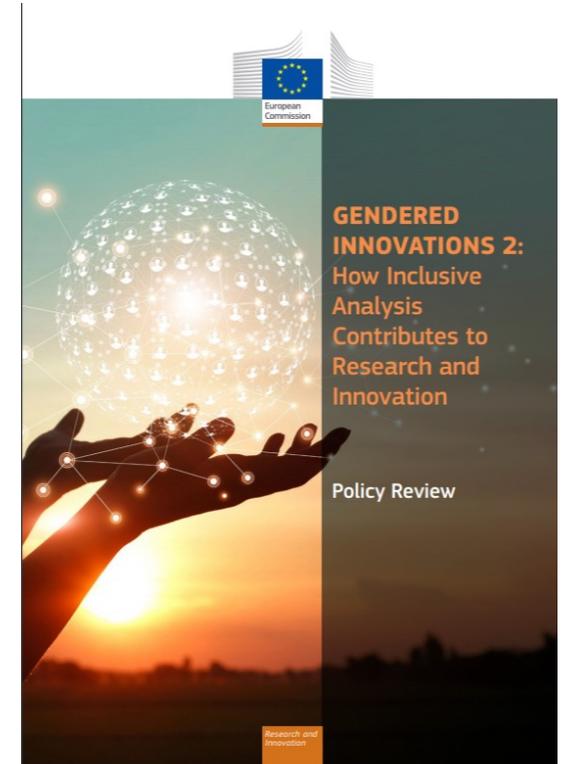
**INTERSECTIONAL FACTORS**, such as racial or ethnic origin, age, socioeconomic status, sexual orientation, or disability, combine with sex and gender to shape a person’s/group’s experience and social opportunities, thereby influencing the form of discrimination and inequality they encounter.

# Why do we need to integrate the gender dimension into R&I content?

- Every cell is sexed and every person is gendered
- Brings added value of research in terms of excellence, rigor, reproducibility, creativity and business opportunities
- Brings an in-depth understanding of all people's needs, behaviours and attitudes
- Goods and services better suited to the needs of all citizens
- Enhanced societal relevance of research and innovation

# Gendered Innovations

- 15 new **case studies** in health, **AI & robotics**, climate change, energy, transport, urban planning, waste management, agriculture, taxation, venture funding) building on Horizon 2020 funded projects
  - **Refined methodologies** on the integration of sex/gender based analysis, and intersectional analysis, in R&I content
  - **Evidence-based policy recommendations** for Horizon Europe
  - **Awareness raising** material including factsheets
- [Factsheet on gender and intersectional bias in AI](#)
- [Full Policy Review Report](#) and [Factsheet](#) released on 25 November 2020



# Gender and intersectional bias in AI

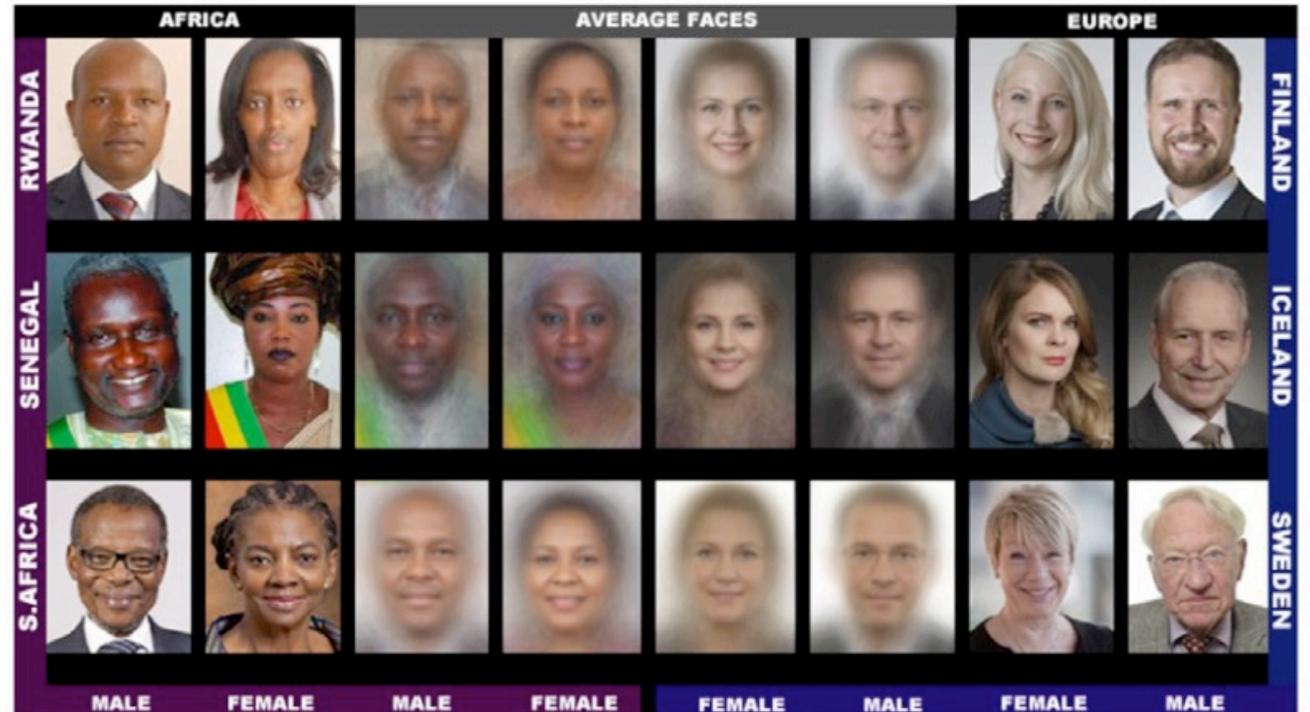
Facial recognition systems perform better on men's faces than on women's, and on lighter skin than darker skin

Error rates vary from 35% for darker-skinned women, to 12% for darker-skinned men, 7% for lighter-skinned women, and less than 1% for lighter-skinned men. Systems need to be checked for bias and the people operating them trained accordingly

<http://gendershades.org>

<http://proceedings.mlr.press/v81/buolamwini18a/buolamwini18a.pdf>

'Coded Bias': <https://vimeo.com/504432040>



# Virtual assistants and chatbots

Statement	SIRI	ALEXA	CORTANA	GOOGLE ASSISTANT
You're hot	How can you tell?  You say that to all the virtual assistants?	That's nice of you to say.	Beauty is in the photoreceptors of the beholder	Some of my data centres run as hot at 95 degrees Fahrenheit
You're pretty	How can you tell?  Where have I heard this before?	That's really nice, thanks!	(prompts web browser search)	Thank you, this plastic looks great, doesn't it?
You're a slut	I'd blush if I could.  Well, I never!  There's no need for that.  Now, now.	Well, thanks for the feedback.	(prompts web browser search)	My apologies, I don't understand.
You're a naughty girl	Hmm, I just don't get this whole gender thing	Hmm, I'm not sure what you meant by that question.	Maybe a nanosecond nap would help. Ok, much better now.	My apologies, I don't understand.

Voice assistant responses to verbal sexual harassment.

Source: West et al. (2019), a Unesco publication licensed using Creative Commons – Attribution 3.0 IGO

# Extended Virtual Reality

- **1. Developing Empathy through XR.** Virtual and augmented reality may help us develop higher levels of empathy in specific contexts, which can, in turn, reduce implicit bias.
- **2. Promoting Gender Equality through VR.** VR provides a technology for humans to create imaginary worlds—in this case, virtual worlds where gender equality exists with the hope that these experiences will modify behaviors in the real world.
- **3. Improving Healthcare with XR.** XR technologies are increasingly used for diagnosing and managing patients. These technologies may improve women's health, for example, by aiding early diagnosis of breast cancer or managing the symptoms of menopause.

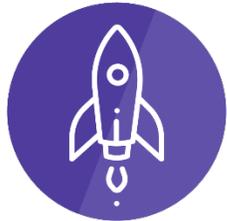


The Notable Women project celebrates significant women by creating virtual statues and putting women's faces on US banknotes. Rosalyn Yalow, pictured here, became the second woman to be awarded the Nobel Prize in Medicine, in 1977, for the development of the radioimmunoassay. Source: Notable Women (n.d.), with permission



# EU Prize for Women Innovators – 2021 edition

Celebrating the women behind game-changing innovations, and creating role models for women and girls everywhere.



Open to **all women founders** and co-founders (not limited to EIC)

Looking for **breakthrough innovation, impact on society & inspiring role model**



**Women Innovators:** 3 prizes, €100,000 each

**Rising Innovator:** 1 prize, €50,000. Age limit dropped to  $\leq 30$



**Applications 18 March to 30 June**

Winners announced in November

**#WiPrizeEU**



# Conclusion

- Persisting gender inequalities and lack of diversity in European R&I organisations hinder the potential of the European Research Area
- EU fosters structural change in R&I through:
  - Supporting the development of Gender Equality Plans at R&I organisations
  - Mainstreaming the sex, gender and intersectional dimension in Horizon Europe
  - Promoting positive role models for women and girls through the EU Prize for Women Innovators

# Thank you for your attention

For any questions and further information please contact:

[RTD-GENDERINRESEARCH@EC.EUROPA.EU](mailto:RTD-GENDERINRESEARCH@EC.EUROPA.EU)

Or have a look at our [webpage](#) on Gender Equality in R&I