European Commission

European Political Strategy Centre

The Age of Artificial Intelligence

Towards a European Strategy for Human-Centric Machines

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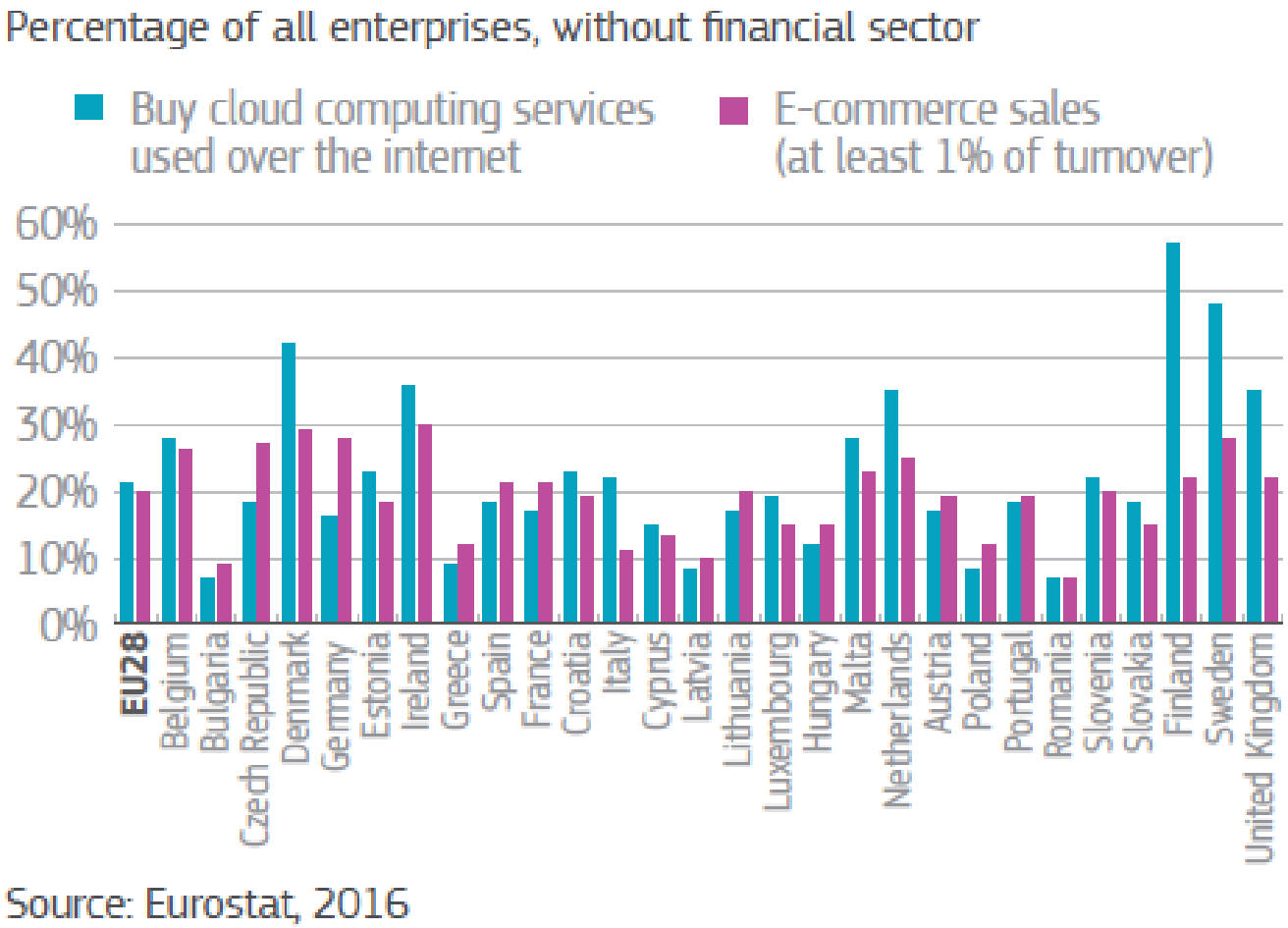
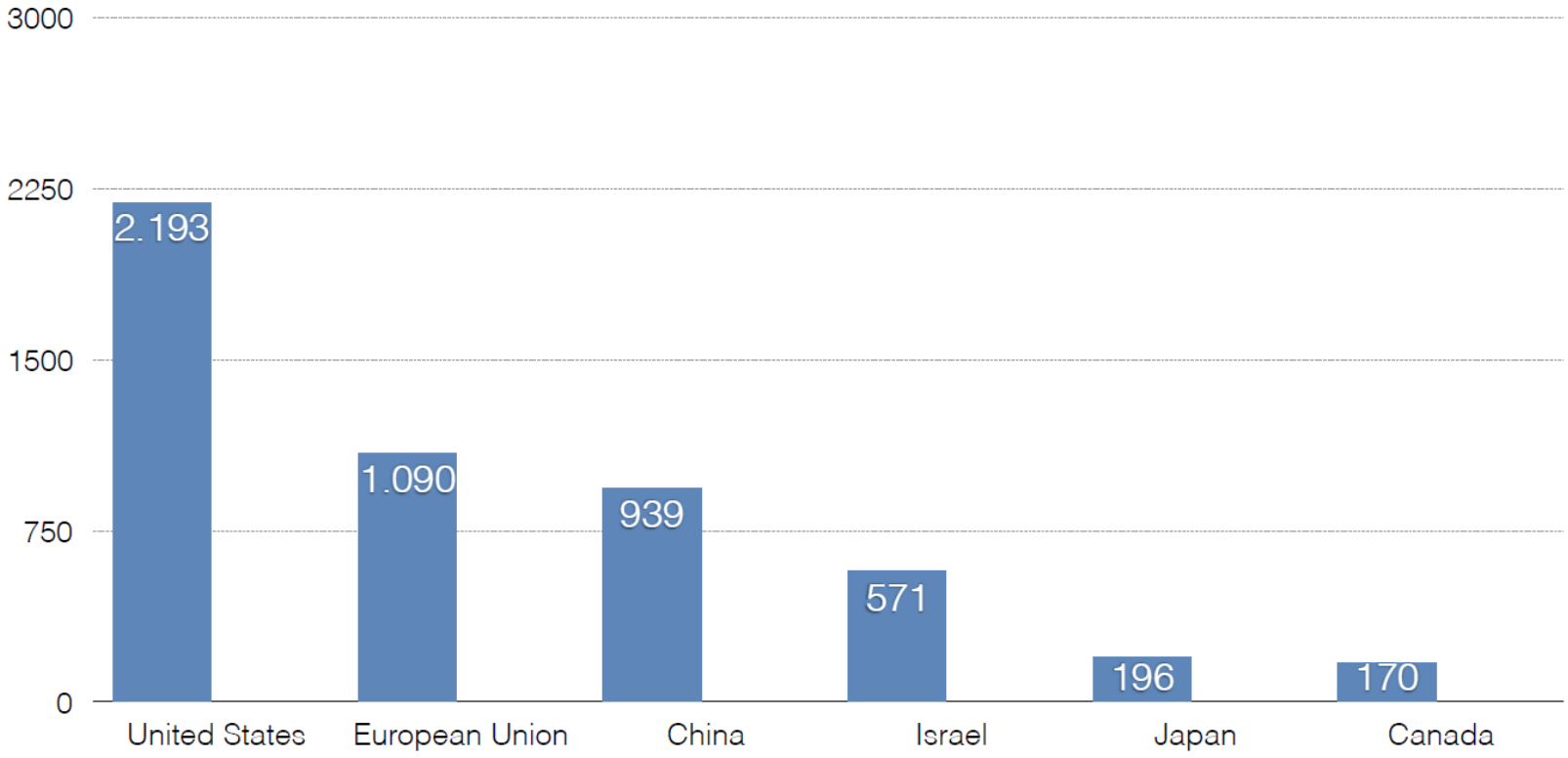
European Political Strategy Centre, European Commission
(views are personal, not EC's)

Europe's n.1 challenge is with adoption



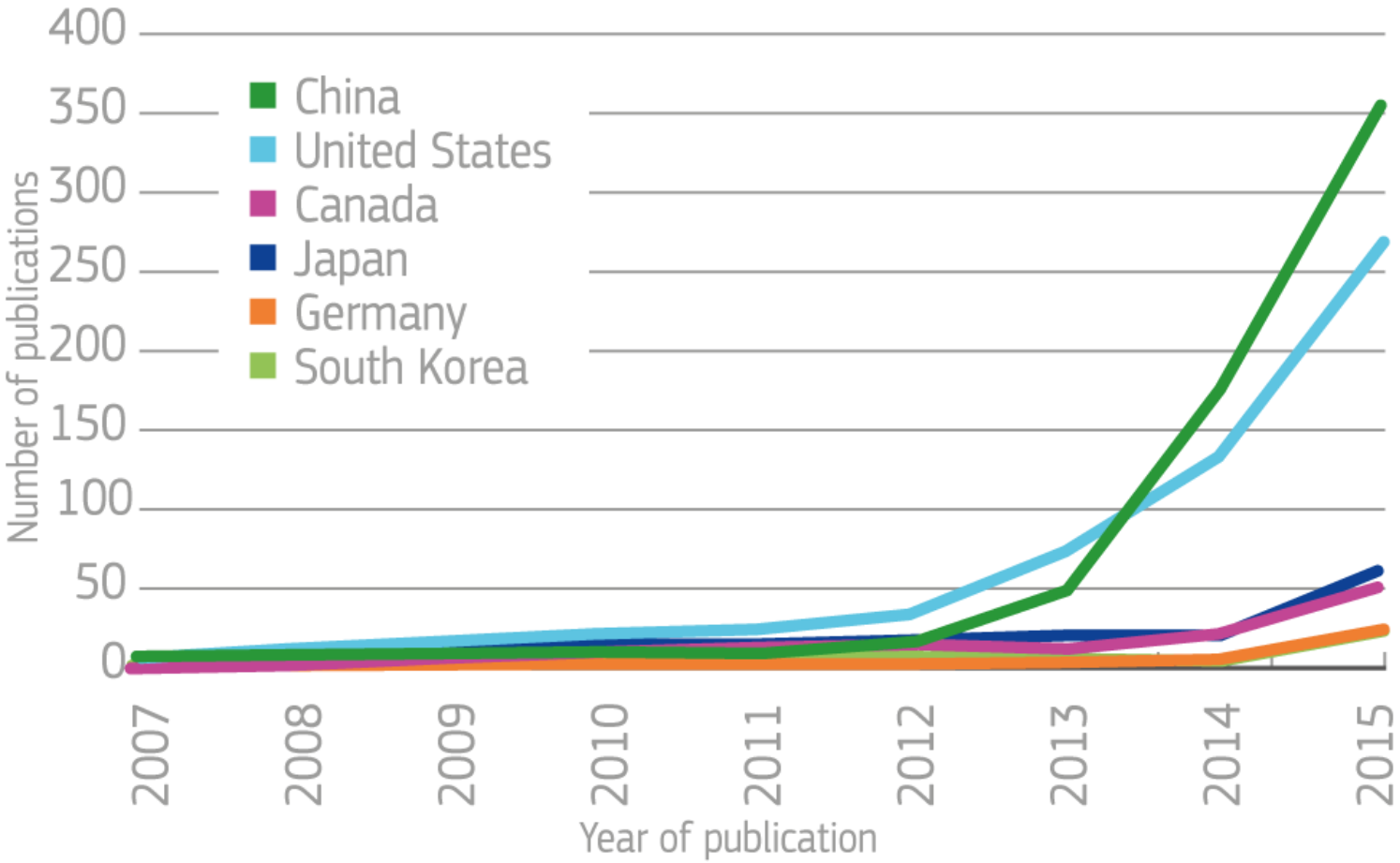
Source: Eurostat, 2016

Number of AI companies

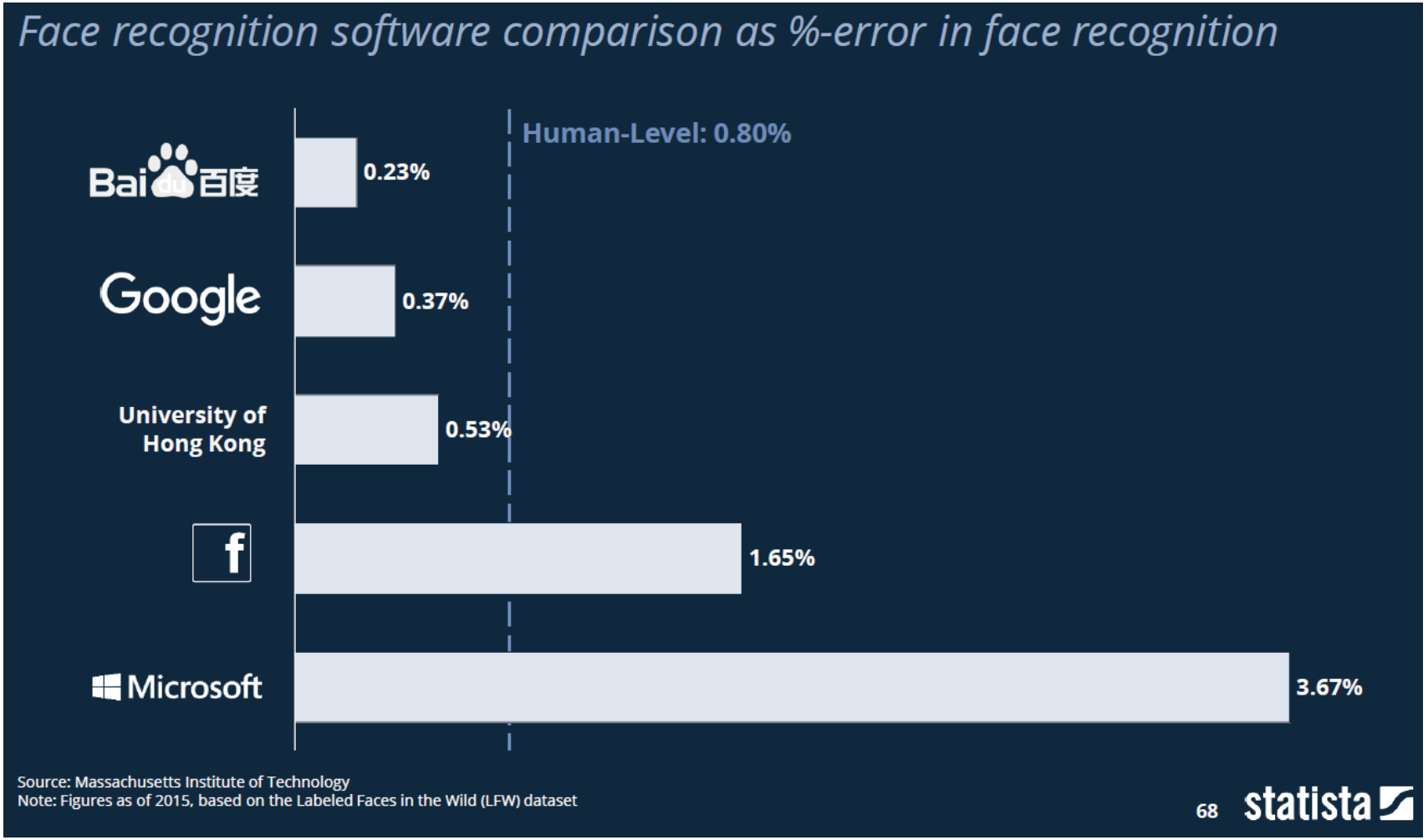


Asgard, 2018

Published papers in Deep Learning



White House, 2016

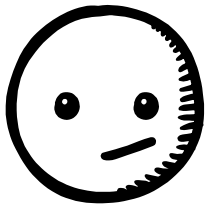

Face recognition software comparison as %-error in face recognition
Human-Level: 0.80%
Baidu 百度
0.23%
Google
0.37%
University of Hong Kong
0.53%
1.65%
Microsoft
3.67%
Source: Massachusetts Institute of Technology
Note: Figures as of 2015, based on the Labeled Faces in the Wild (LFW) dataset
68
statista

What do the others have?

Usual suspects:

- Seamless big markets
- Infrastructure
- Capital flows (private and public)
- Research linked to markets
- …

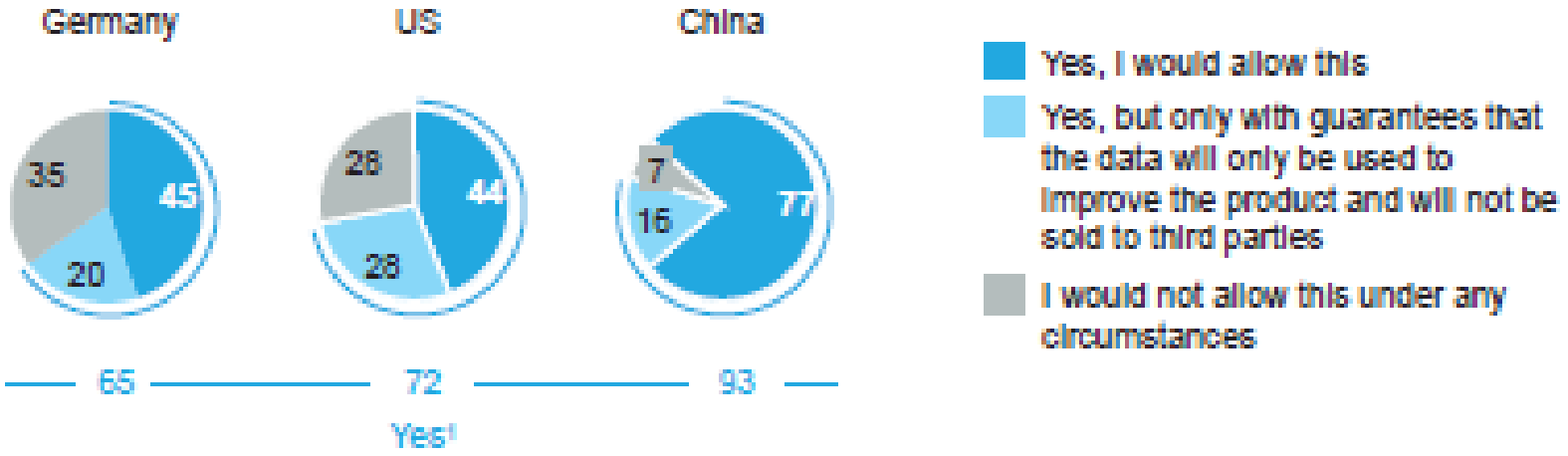
Cultural advantage



93% of Chinese customers are willing to share their location data with the manufacturer of their car, compared to 65% of Germans and 72% of Americans

Would you allow your car to track your location and report it anonymously, e.g., to enable your carmaker to improve the next generation of your car?

Percent



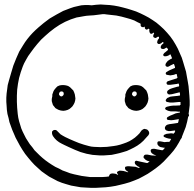
McKinsey, 2015

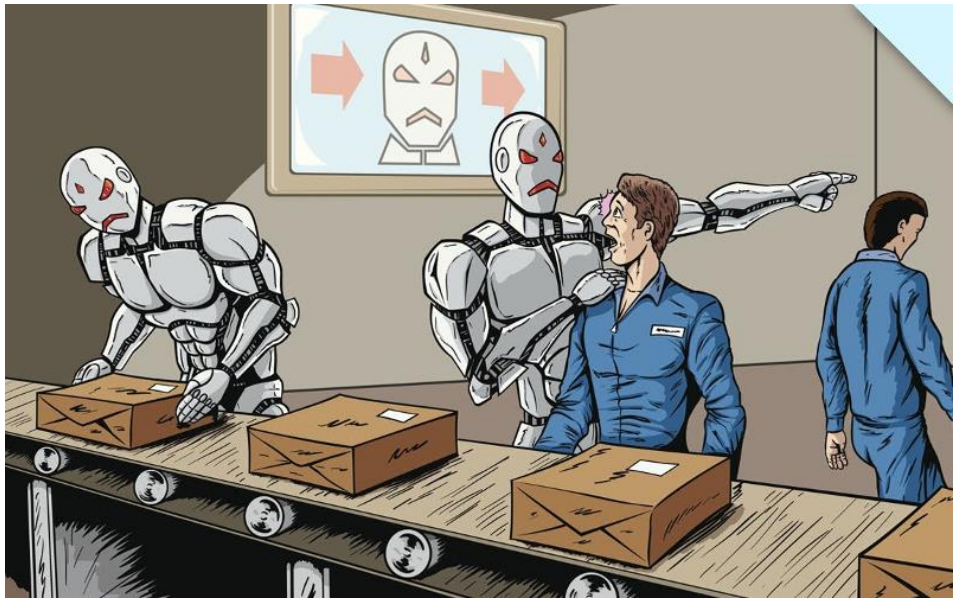
Optimal response strategy

(1) Create a framework that **supports AI**

(2) **Identify** and **address social risks** setting global quality standards

- *Europe still the richest market*
- *Long-term demand stability*

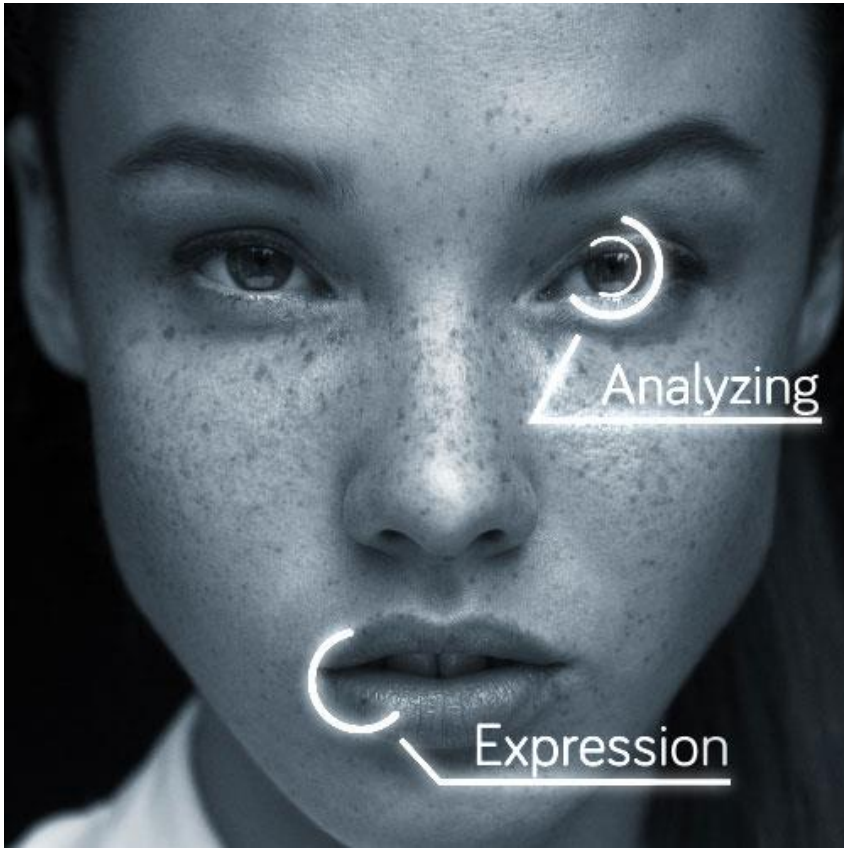




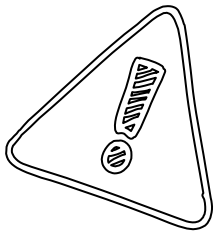
Substitution Vs **Augmentation**

Illustration: Daniel Villaneuve Photo: John Zich/zrImages/Corbis

employer – employee 4.0

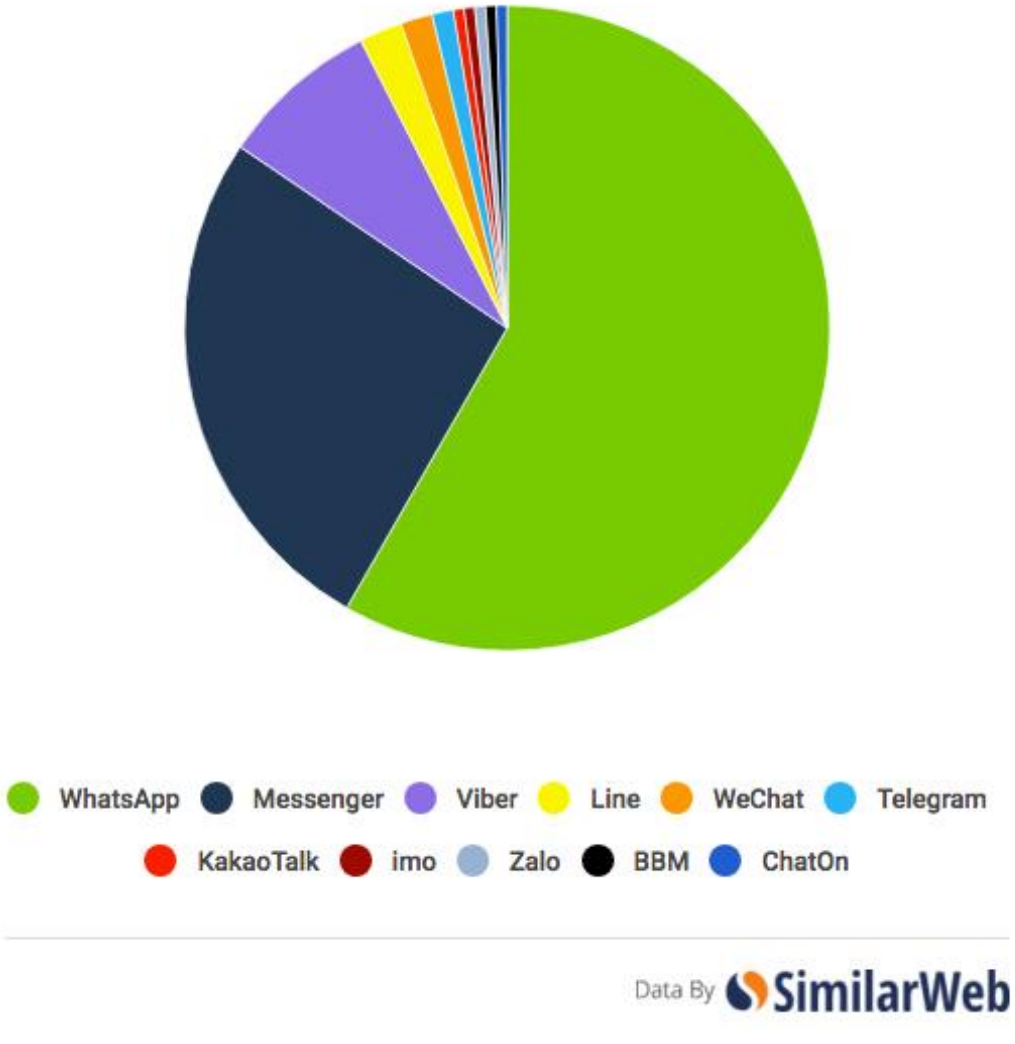


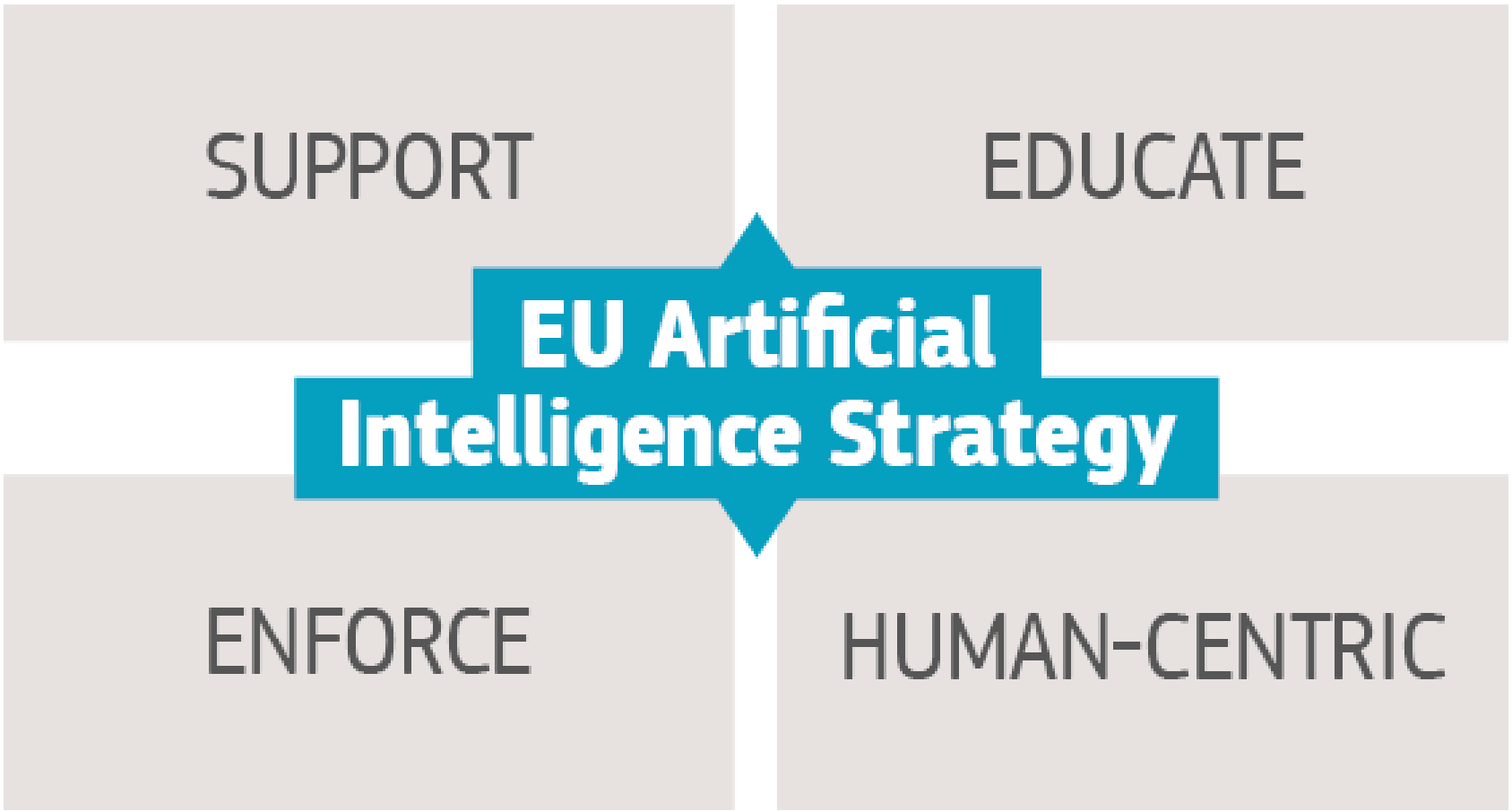
AI Big Question



*What is the **optimal level of discrimination** in our society?*

Facebook's WhatsApp + Messenger = 80% of the market




SUPPORT
EDUCATE
EU Artificial Intelligence Strategy
ENFORCE
HUMAN-CENTRIC

(1) Foster **DSM** (connectivity, computing facilities, data flow and access)

(2) Stimulate AI **adoption** / data multiplier effect

(3) Support **research**

(4) **Skills** and **education** actions

(5) **Competition policy 4.0** for functioning markets

(6) Action Plan for **Human-Centric AI**

A European Action Plan for Human-Centric AI

Social system analysis

Monitoring

AI quality standards

Enforcement

Global multilateral engagement on AI

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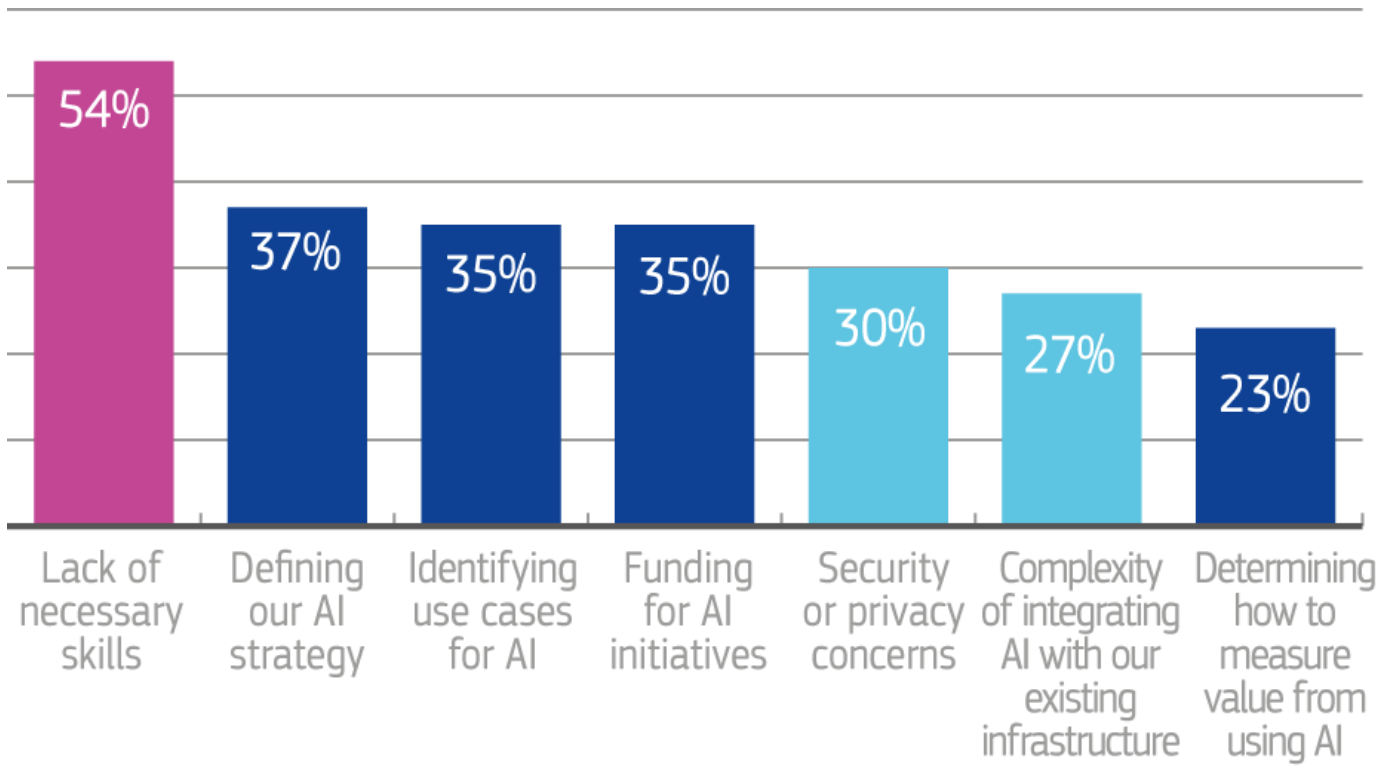
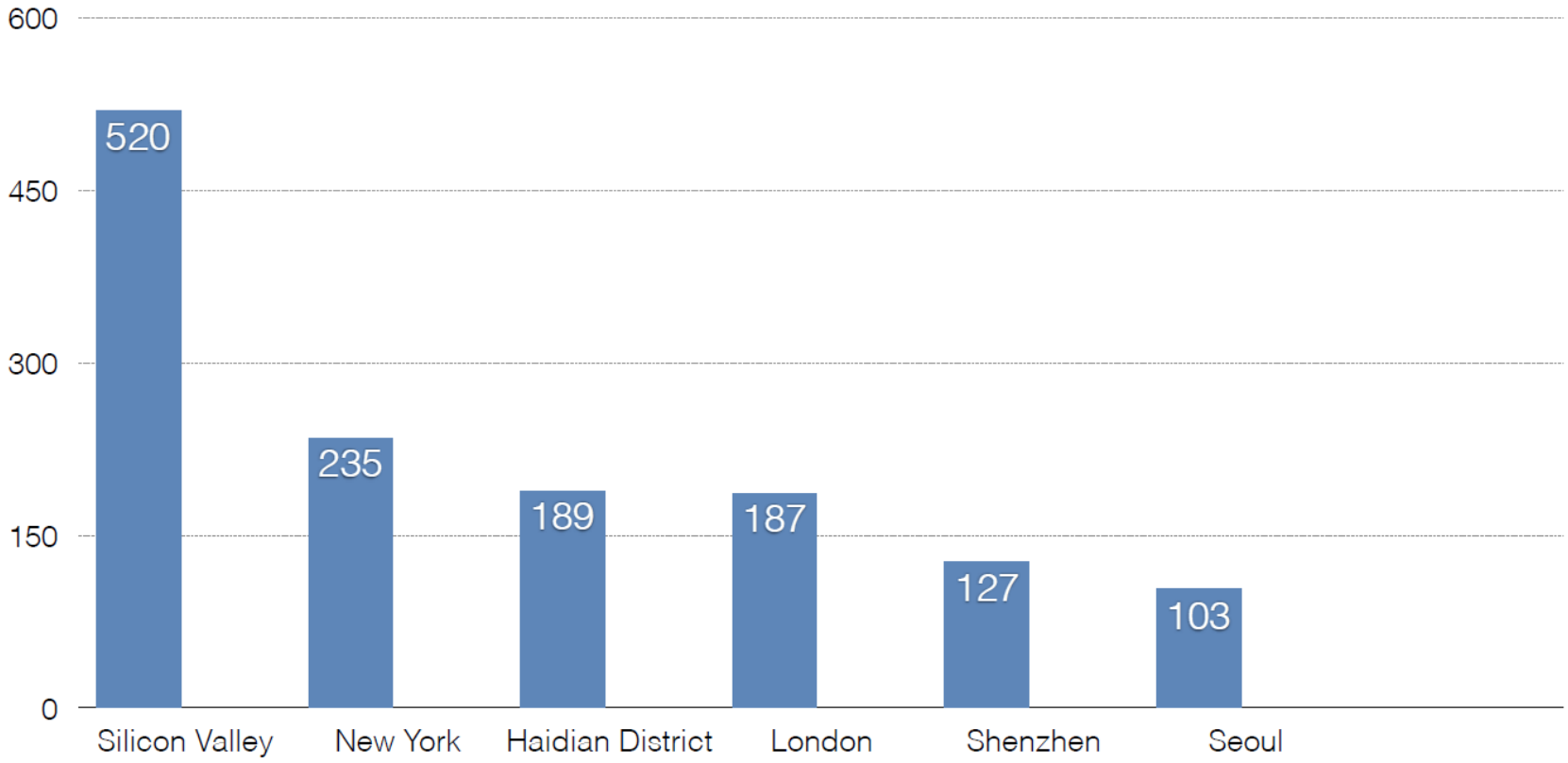
Back-Up Slides

Answers to the question: 'What is the biggest roadblock to AI adoption?' (Share of respondents, %)

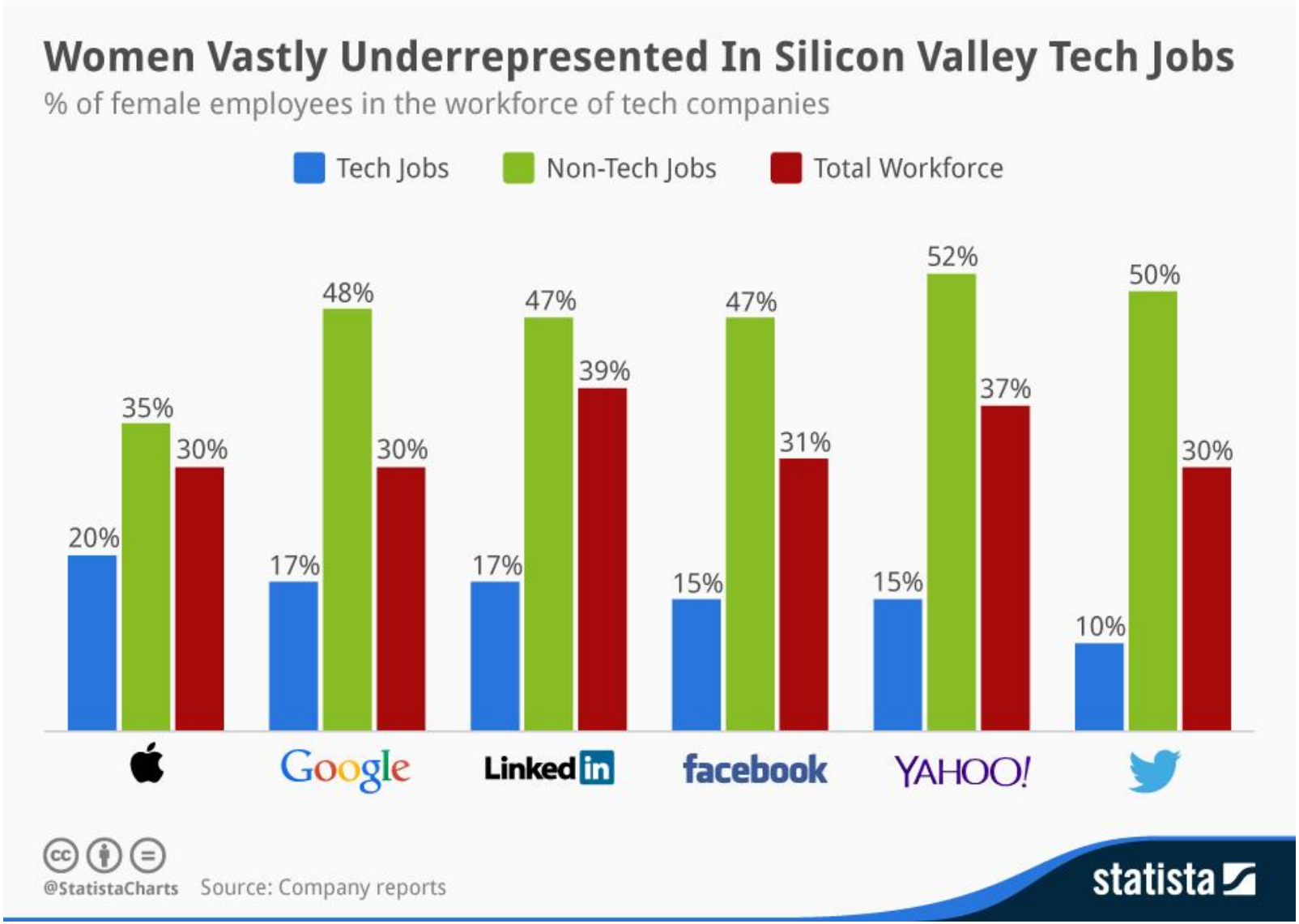


Gartner, 2017

AI Hubs



Asgard, 2018


Women Vastly Underrepresented In Silicon Valley Tech Jobs
% of female employees in the workforce of tech companies
Tech Jobs
Non-Tech Jobs
Total Workforce
20%
35%
30%
17%
48%
30%
17%
47%
39%
15%
47%
31%
15%
52%
37%
10%
50%
30%
Google
LinkedIn
facebook
YAHOO!
@StatistaCharts
Source: Company reports
statista

EC AI Strategy – Three Pillars

(1) ***Boosting*** *EU* ***technology*** *and* ***industrial capacity***

(2) *Addressing AI's* ***socioeconomic impact***

(3) *Ensure an appropriate human-centric* ***ethical and legal framework***

[1] Competitiveness

(1) aim to get €20bln financing by 2020 (public + private)

(2) Increase EC's investment by 80% in 2018-2020 to reach €1.5 bln (H2020)

(3) Support pan-European network of AI excellence centres

(4) AI on-demand platform: access to algorithms and expertise to SMEs

(5) Industrial data platform

(others)

[2] Socioeconomic implications

(1) 2018: Dedicated retraining schemes

(2) Gather analysis / expert inputs to anticipate changes in labour market (eg foresight report on impact of AI on education etc)

(3) Encourage business-education partnerships

(4) By end of 2018: smart specialisation platform to address challenges arising from AI to foster inter-regional partnerships

[3] Ethical / Legal Framework

(1) Set up AI alliance – multi-stakeholder platform (engagement)

(2) Expert group to draft AI ethics guidelines (by 2019)

(3) Issue guidance on interpretation of the Product Liability Directive

(4) Fund research on the development of explicable AI

(5) Monitoring