



UNIVERSITAS
GADJAH MADA

EDUCATION 4.0: STRATEGY FOR MILLENNIAL AND POST-MILLENNIAL GENERATION

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Pusat Inovasi dan Kajian Akademik (PIKA)



ASEAN
University
Network

AUNILO
Libraries of ASEAN University Network

15th AUNILO Meeting, 5-8 August 2019



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mayong_hs

Webex Teams

UGM.AC.ID

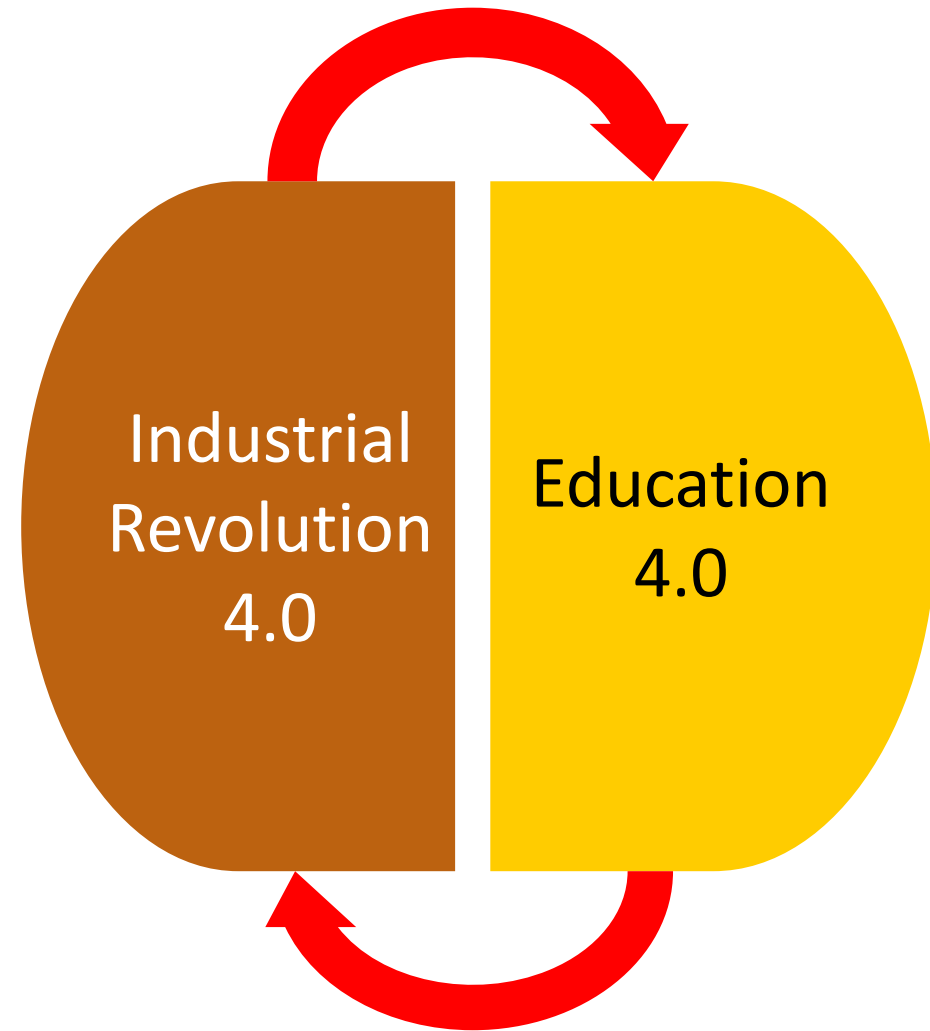
LOCALLY ROOTED, GLOBALLY RESPECTED



Today's Talks:

1. Connection between Industrial Revolution 4.0 and Education 4.0
2. Understanding the Changes of Generation
3. Digital Natives and Independent Learners
4. Changes in the Education Paradigm
5. UGM's Strategy and Innovation in Education

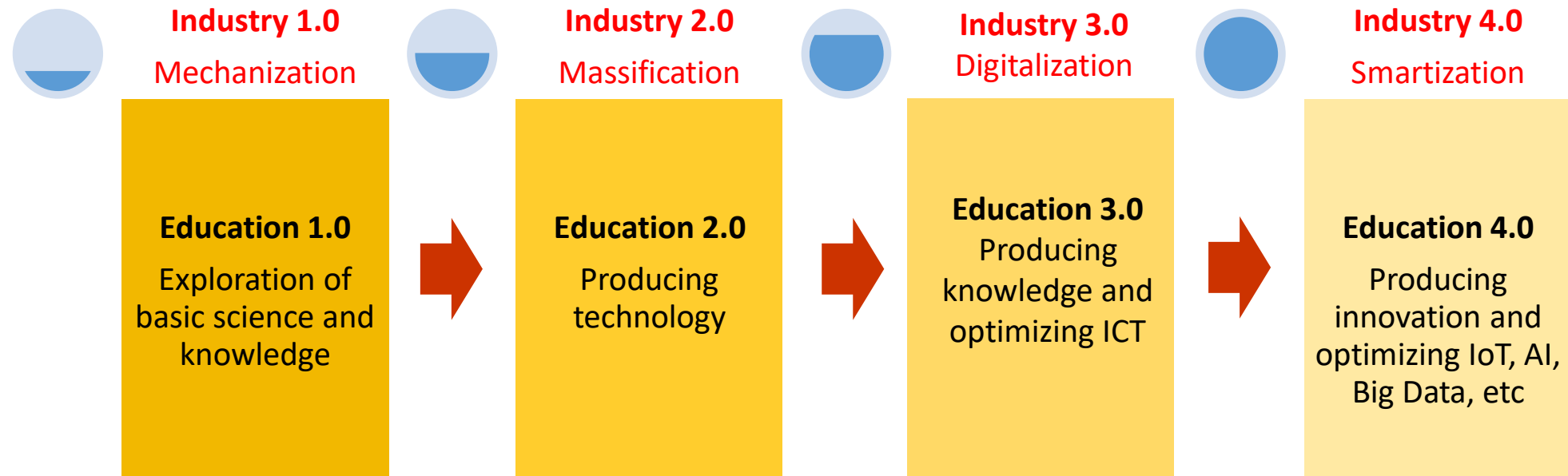
1. Connection between Industrial Revolution 4.0 and Education 4.0



*Source: 1st AUN-QA Workshop,
Applied Approach to Designing and Implementing OBE Framework*



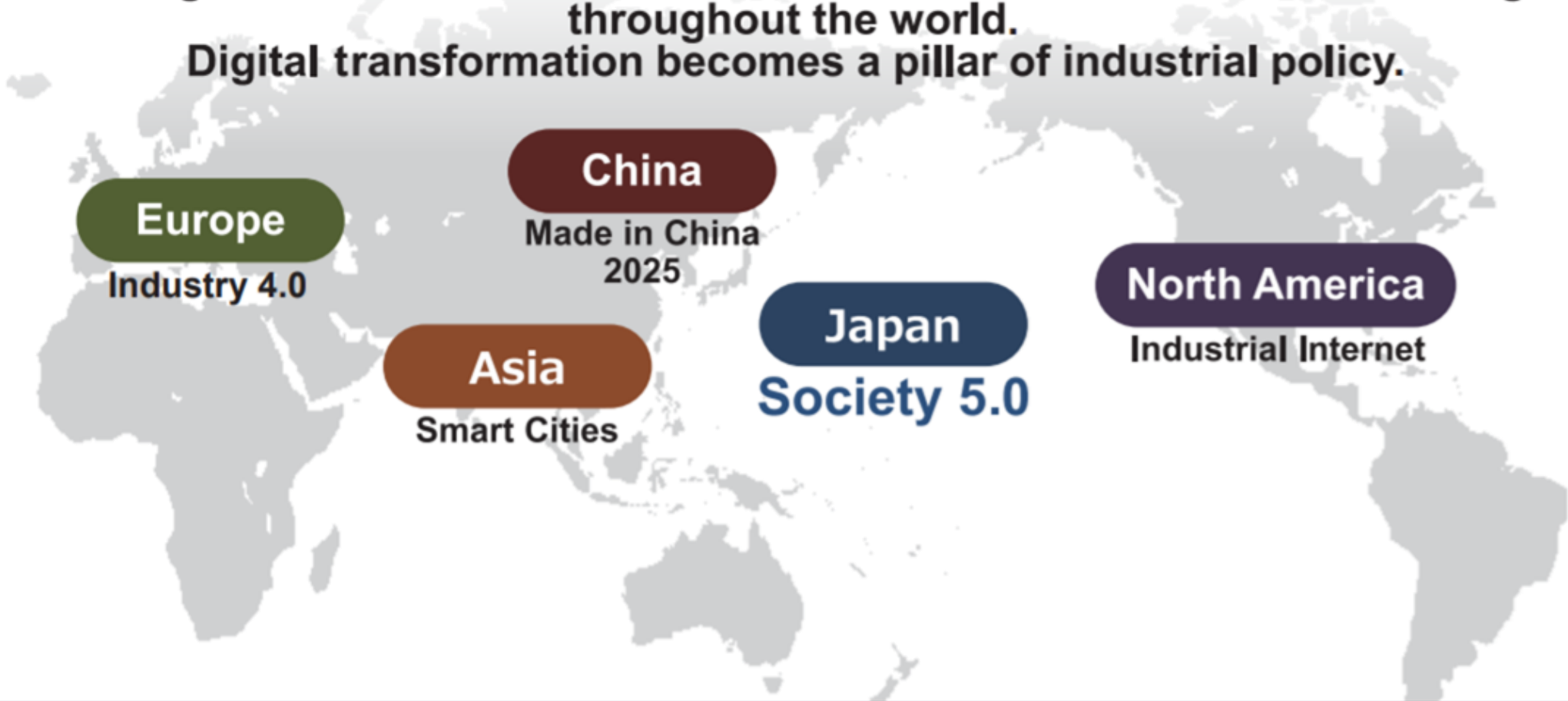
Connection between Industrial Revolution 4.0 and Education 4.0



Digital transformation

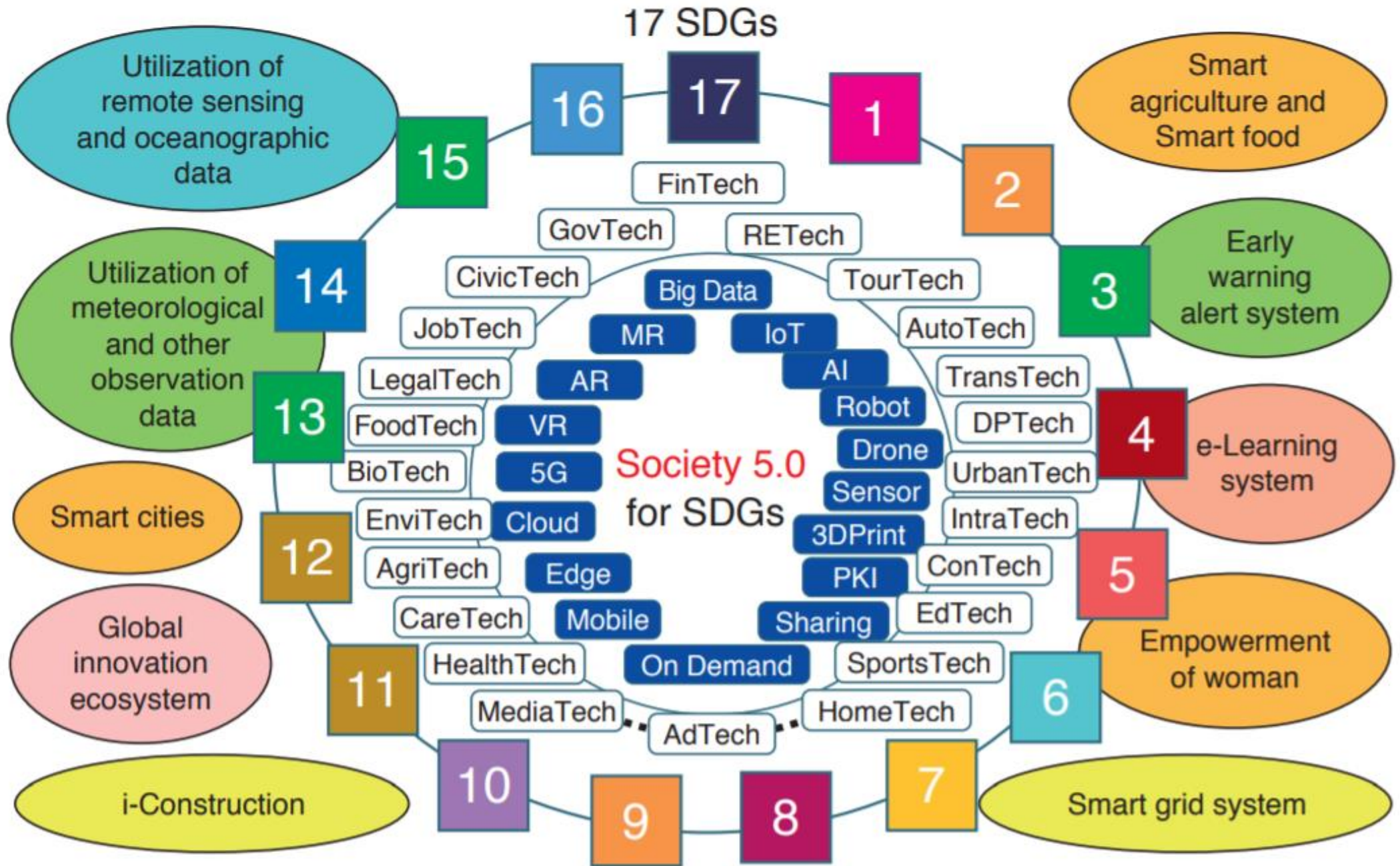
The digitalization of industrial and social infrastructures is accelerating throughout the world.

Digital transformation becomes a pillar of industrial policy.



IoT Artificial intelligence Robotics Big data Blockchain

Reference: Mayumi Fukuyama, 2018. Society 5.0: Aiming for a New Human-Centered Society. Japan Spotlight





2. Understanding the Changes of Generation

G.I./GREATEST

SILENT

BOOMERS

X

MILLENNIALS

Born

- 1901 - '24 (S&H)
- Pre 1928 (Pew)

Born

- 1925 - '42 (S&H)
- 1928 - '45 (Pew)

Born

- 1943 - '60 (S&H)
- 1946 - '64 (Pew)

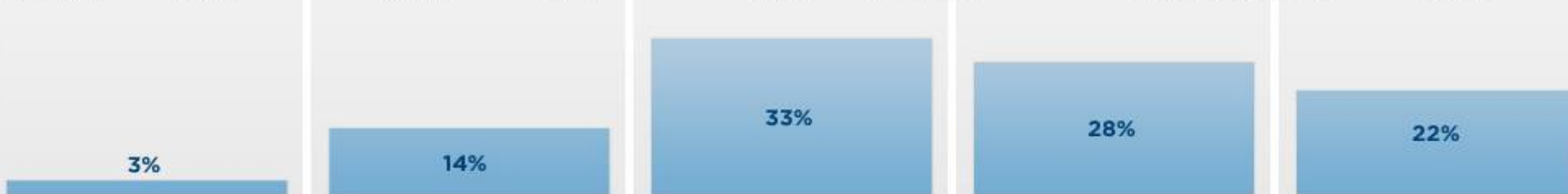
Born

- 1961 - '81 (S&H)
- 1965 - '80 (Pew)

Born

- 1982 - 2004 (S&H)
- Post 1980 (Pew)

KEY • Strauss & Howe (S&H) • Pew Research Center (Pew)



Percent of 2010 adult population (Census estimate)

Age in 2010 (Pew): 83+, 65 - 82, 46 - 64, 30 - 45, 29-



Katharine Hepburn Born 1907
George H. W. Bush Born 1924
Martin Luther King, Jr. Born 1929
Tina Turner Born 1939
Oprah Winfrey Born 1954
Michael Jordan Born 1963
Jay-Z Born 1969
Tiger Woods Born 1975
Christina Aguilera Born 1980
Mark Zuckerberg Born 1984



SOURCES "Generations: The History of America's Future, 1584 to 2069" by William Strauss and Neil Howe, Pew Research Center's "Millennials: A portrait of Generation Next" report, US Census, Getty Images

Generation Y (Millennial)

WHO ARE MILLENNIALS?

BORN BETWEEN 1980 AND 2000

GREW UP ALONGSIDE TECHNOLOGY



DO THEY MATTER?

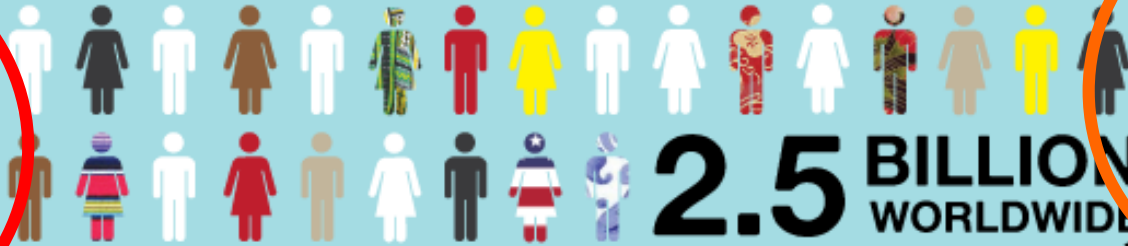
% OF WORKFORCE

50% BY 2020
75% BY 2030

IN THE COMING YEARS

LARGEST GENERATION YET

80 MILLION IN THE U.S.



2.5 BILLION WORLDWIDE

MOST ETHNICALLY & RACIALLY DIVERSE



DOMINANCE OF SOCIAL NETWORKS

ASPIRE TO MAKE A DIFFERENCE W/ THEIR WORK

- CONFIDENT
- HAVE HIGH EXPECTATIONS
- ACHIEVEMENT ORIENTED

Image from Why Millennials Matter (www.whymillennialsmatter.com)

GENERATION Z

★ BORN 1995-2009 ★

ZEE'S GLOBAL GEN
GEN Z DIGITAL INTEGRATORS
iGEN CLICK 'N GO KIDS

MOBILITY

17 JOBS
15 HOMES
IN A LIFETIME*

TOP NAMES

William	1	Lily
Jack	2	Chloe
Jacob	3	Isabella
Lachlan	4	Mia
Oliver	5	Olivia

EFFECTIVE ENGAGEMENT

BB	Verbal	→	Visual	Z
	Sit & listen	→	Try & see	
	Teacher	→	Facilitator	
	Content (what)	→	Process (how)	
	Curriculum centred	→	Learner centric	
	Closed book exams	→	Open book world	

EDUCATION

1 in 4
1 in 3
1 in 2*

UNIVERSITY EDUCATED

WEALTH

Avg. annual earnings in 2063 (as Gen Z retire)*
\$222,000

Average capital city house price (2063)*
\$2.5 MIL.

REDEFINED LIFESTAGES

EFFECTIVE ENGAGEMENT

BB	Verbal	→	Visual	Z
	Sit & listen	→	Try & see	
	Teacher	→	Facilitator	
	Content (what)	→	Process (how)	
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	Closed book exams	→	Open book world	

SLANGUAGE

Selfies
Cray cray
Defs
Onesie
YOLO
LOL

HEALTH

likely to be obese/overweight when all Gen Z have reached adulthood (2027)*

7.9 61.8

GLOBAL GENERATION

2,000,000,000 2 BILLION GEN Zs

COUNTRIES WITH LARGEST NUMBER





3. Digital Natives and Independent Learners

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TIME SPENT WITH MEDIA

AVERAGE DAILY TIME SPENT CONSUMING AND INTERACTING WITH MEDIA [SURVEY BASED]



AVERAGE DAILY TIME
SPENT USING THE
INTERNET VIA ANY DEVICE



we
are
social

8H 36M

AVERAGE DAILY TIME
SPENT USING SOCIAL
MEDIA VIA ANY DEVICE



global
web
index

3H 26M

AVERAGE DAILY TV VIEWING TIME
(BROADCAST, STREAMING
AND VIDEO ON DEMAND)



global
web
index

2H 52M

AVERAGE DAILY TIME
SPENT LISTENING TO
STREAMING MUSIC

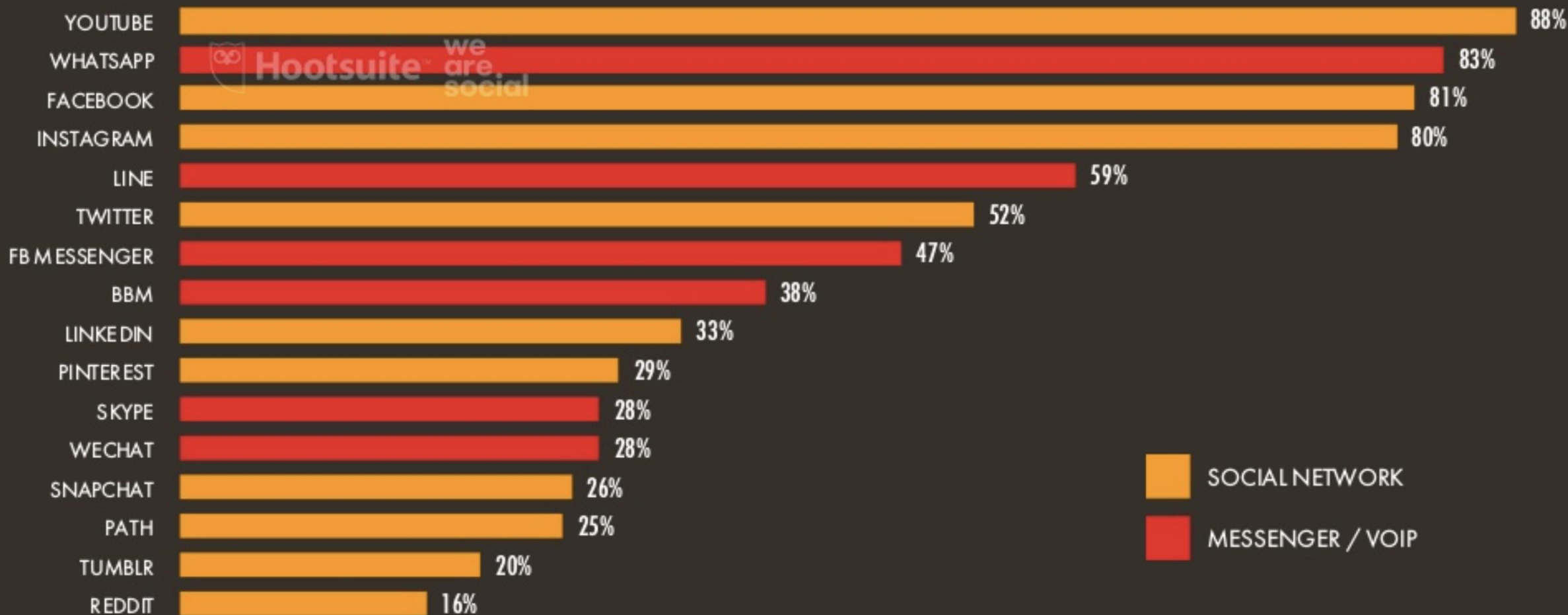


1H 22M

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2019

MOST ACTIVE SOCIAL MEDIA PLATFORMS

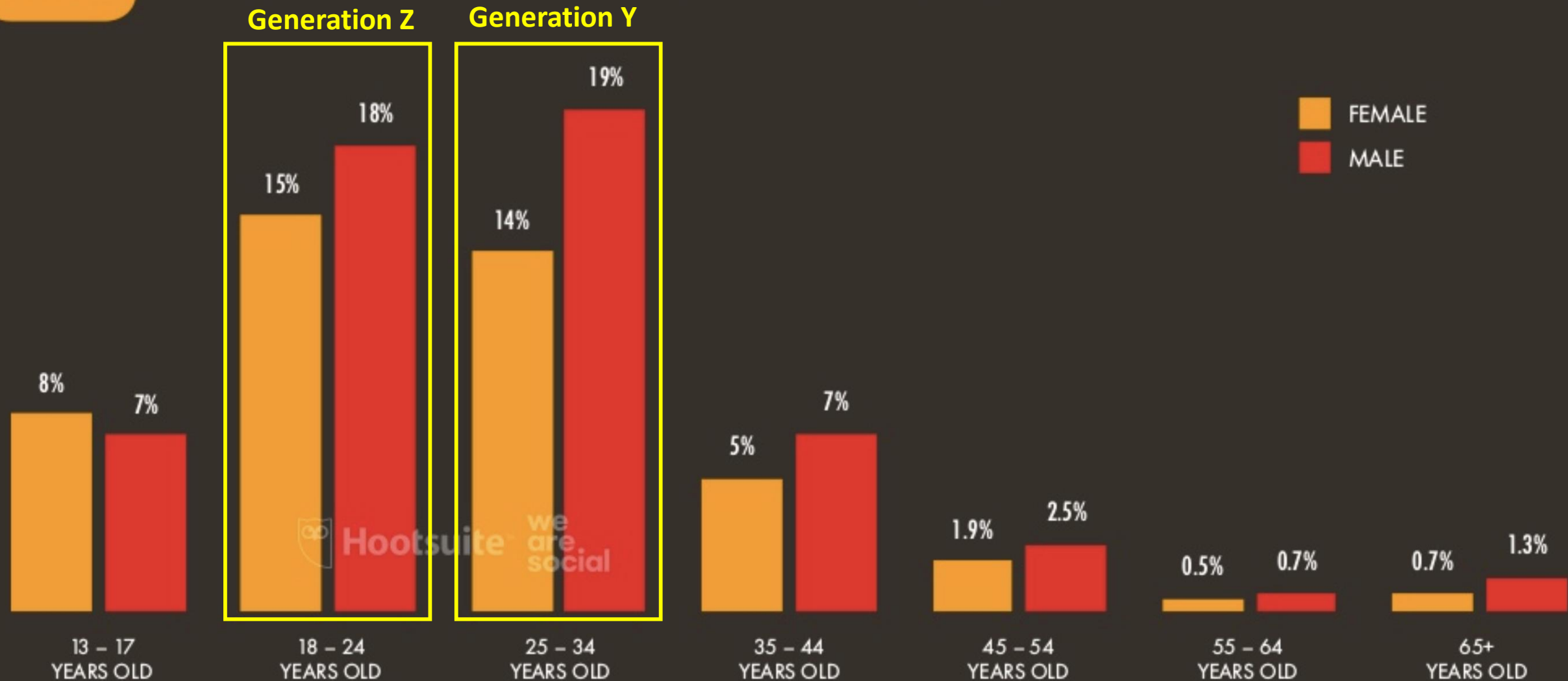
PERCENTAGE OF INTERNET USERS WHO REPORT USING EACH PLATFORM [SURVEY BASED]



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2019

SOCIAL MEDIA AUDIENCE PROFILE


BASED ON THE COMBINED ADVERTISING AUDIENCES OF FACEBOOK, INSTAGRAM, AND FACEBOOK MESSENGER



> 80.000 online courses available

 **80,000 online courses**
Explore a variety of fresh topics

 **Expert instruction**
Find the right instructor for you

 **Lifetime access**
Learn on your schedule

Students are viewing

HOT & NEW



Learn Flutter & Dart to Build iOS & Android Apps

Maximilian Schwarzmüller

★★★★★ 4.7 (172)

~~\$199.99~~ **\$12.99**

BEST SELLER



Complete Python Bootcamp: Go from zero...

Jose Portilla, Pierian Data Intern...

★★★★★ 4.5 (71,396)

~~\$194.99~~ **\$12.99**

BEST SELLER



The Ultimate MySQL Bootcamp: Go from SQL...

Colt Steele, Ian Schoonover

★★★★★ 4.6 (9,308)

~~\$179.99~~ **\$12.99**

BEST SELLER




Build Responsive Real World Websites with...

Jonas Schmedtmann

★★★★★ 4.6 (15,945)

~~\$199.99~~ **\$12.99**

BEST SELLER



Learning Python for Data Analysis and Visualization

Jose Portilla

★★★★★ 4.3 (6,929)

~~\$194.99~~ **\$12.99**

Top courses in "Development"

BEST SELLER



TensorFlow

BEST SELLER



BEST SELLER



C#

BEST SELLER



BEST SELLER



Sass

Viewing 2259 results matching

Search:


Refine your search

Availability	
Current	1019
Starting Soon	219
Upcoming	177
Archived	980

Wider subjects

Subjects	
Architecture	27
Art & Culture	121
Biology & Life Sciences	158
Business & Management	422
Chemistry	44
Communication	90
Computer Science	576
SHOW MORE...	


Featured Courses



VERIFIED

BUx
Driving Digital Innovation through Experimentation

Starting Soon
Starts: July 24, 2018




VERIFIED

BerkeleyX
Bitcoin and Cryptocurrencies

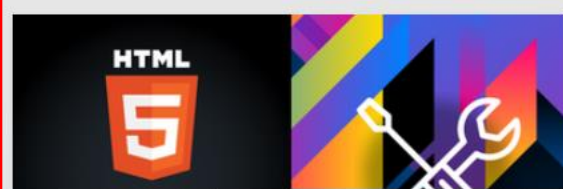
Starting Soon
Starts: July 9, 2018



VERIFIED

Microsoft
Introduction to Python: Absolute Beginner

Current
Self-Paced





Schools and Partners

Developed by top ranking universities

EdX offers the highest quality courses from institutions who share our commitment to excellence in teaching and learning.

1,900 +

courses in subjects such as humanities, math, computer science

14 Million +

learners worldwide, representing every country

52 Million +

enrollments across edX courses

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Contributor



THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學





4. New Paradigm in Higher Education

New Paradigm in Higher Education



1. Education should be able to create the strong nation characters, independency and high nation competitiveness.
2. Competence Based Education and Outcome Based Education.
3. Many kinds of external learning resources (internet based), teachers and books in the library are not the main learning resources anymore.
4. New era of Internet of Things (IoT) with cloud, mobile, social media, and big data.
5. The raising of generation post-millennial (digital natives), called TGIF (Twitter, Google, Instagram, dan Facebook) or FANG (FB, Alibaba, Netflix, Google).

New Paradigm in Higher Education



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6. Transforming from Teacher Centered Learning (TCL), to Student Centered Learning (SCL) and Community & Student Centered Learning (CSCL).
7. ICT based e-Learning and MOOC's.
8. High demand of Blended Learning, Virtual Learning, Distance Learning.
9. Education and knowledge in UGM have to be inclusive, disseminated to the society.
10. Multi-discipline, trans-discipline knowledge.
11. Support to lifelong learning.
12. Connected to sustainable development learning pillars (learning to know, learning to do, learning to transform oneself and society, learning to give and share)



5. UGM's Strategy and Innovation in Education

UGM's Strategy in Education



Optimize internal and external learning resources using ICT.



Improve the Foundational Literacies



Improve the competence of 21st century (4Cs).



Improve the Character Qualities



Encourage the lifelong learning

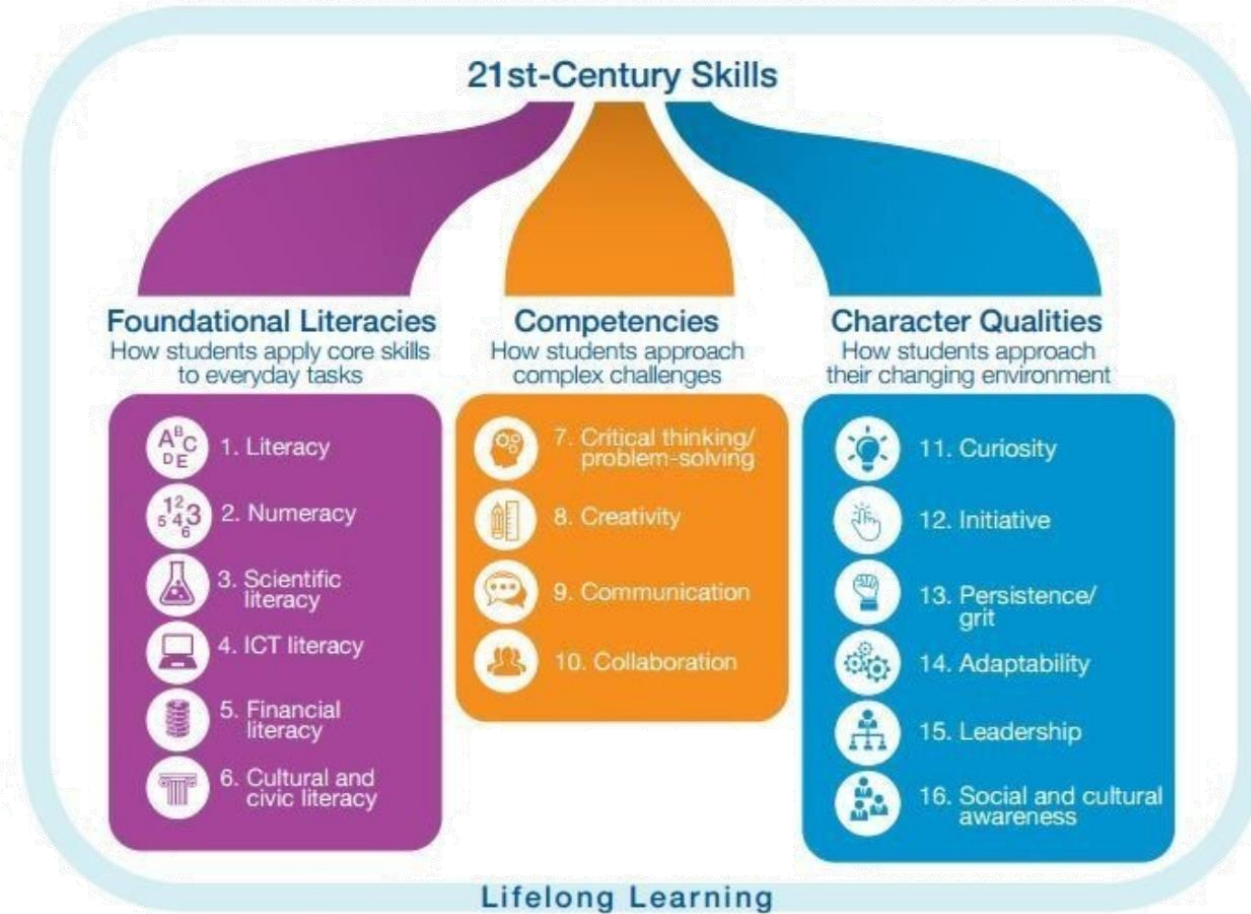
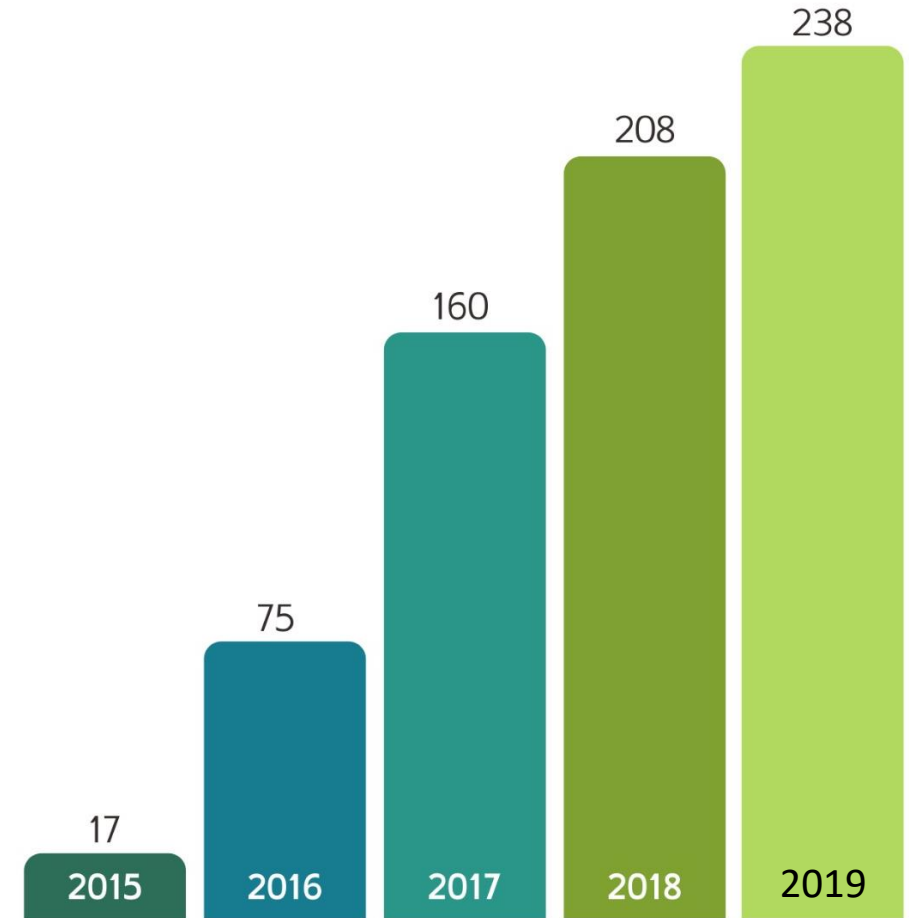
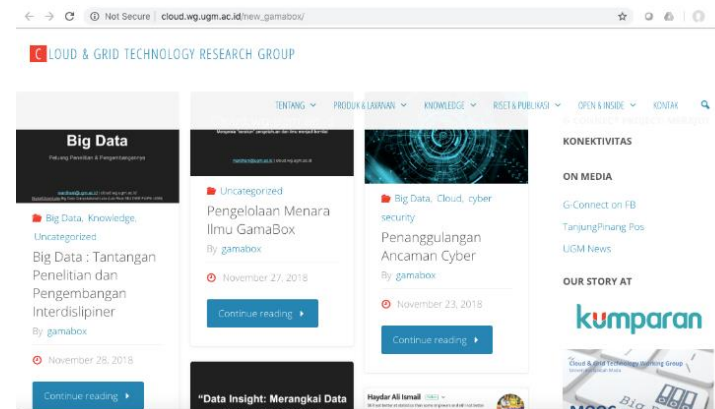
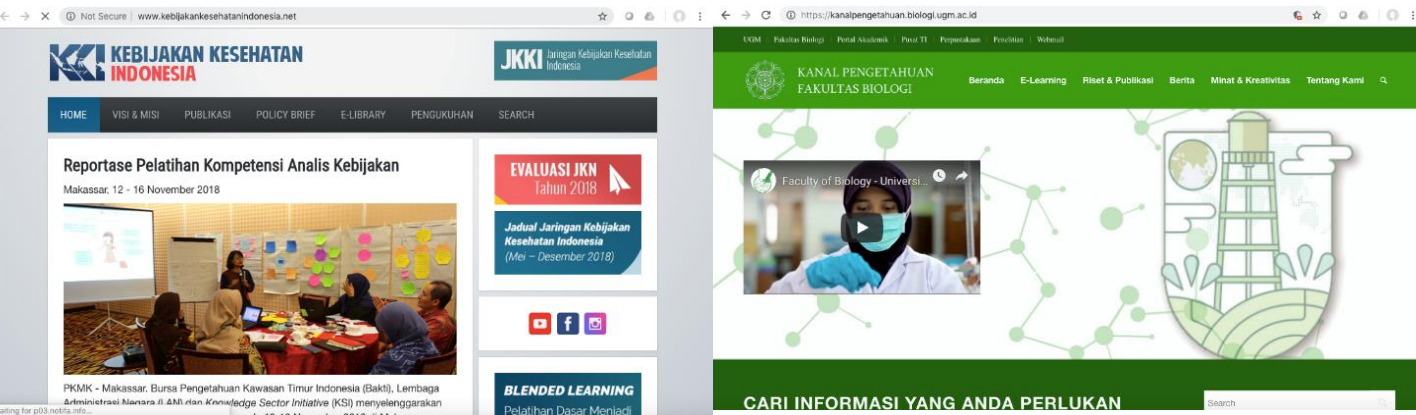


Image: World Economic Forum, New Vision for Education (2015)

a. Science Channel for Knowledge Dissemination



UGM is committed that knowledge must be able as public goods and disseminate to society through internet technology.



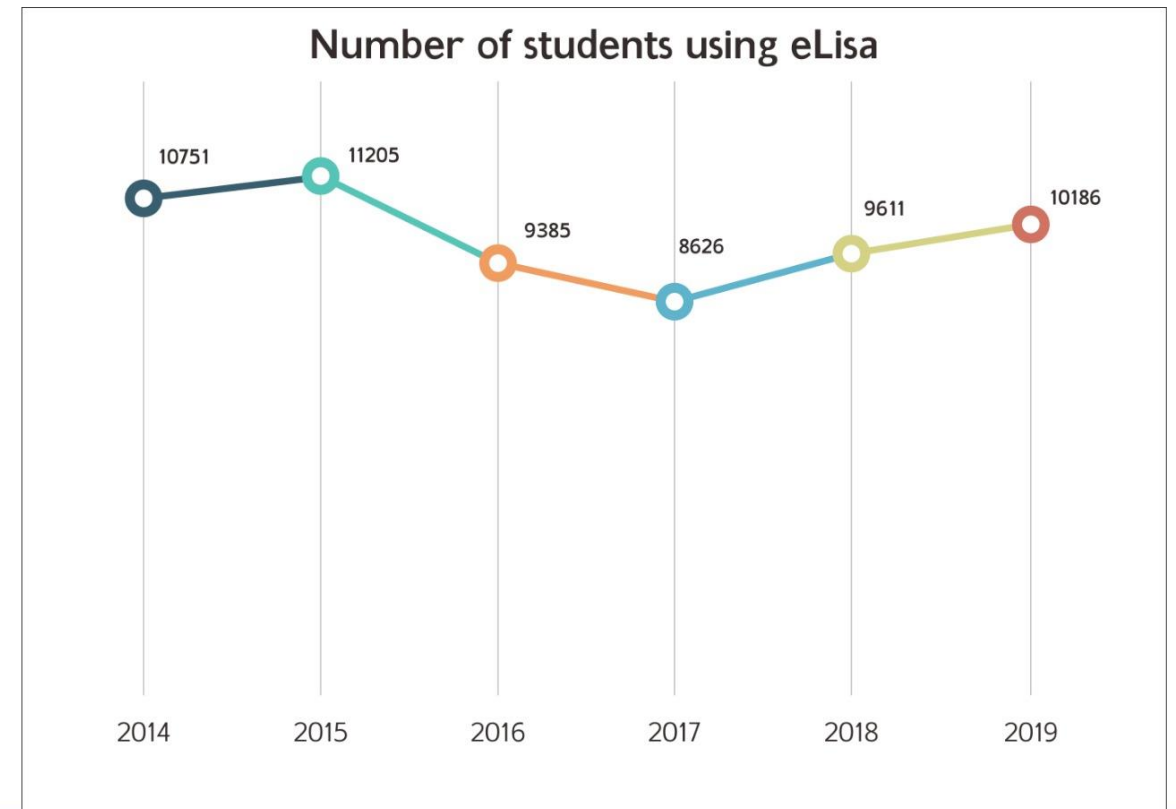
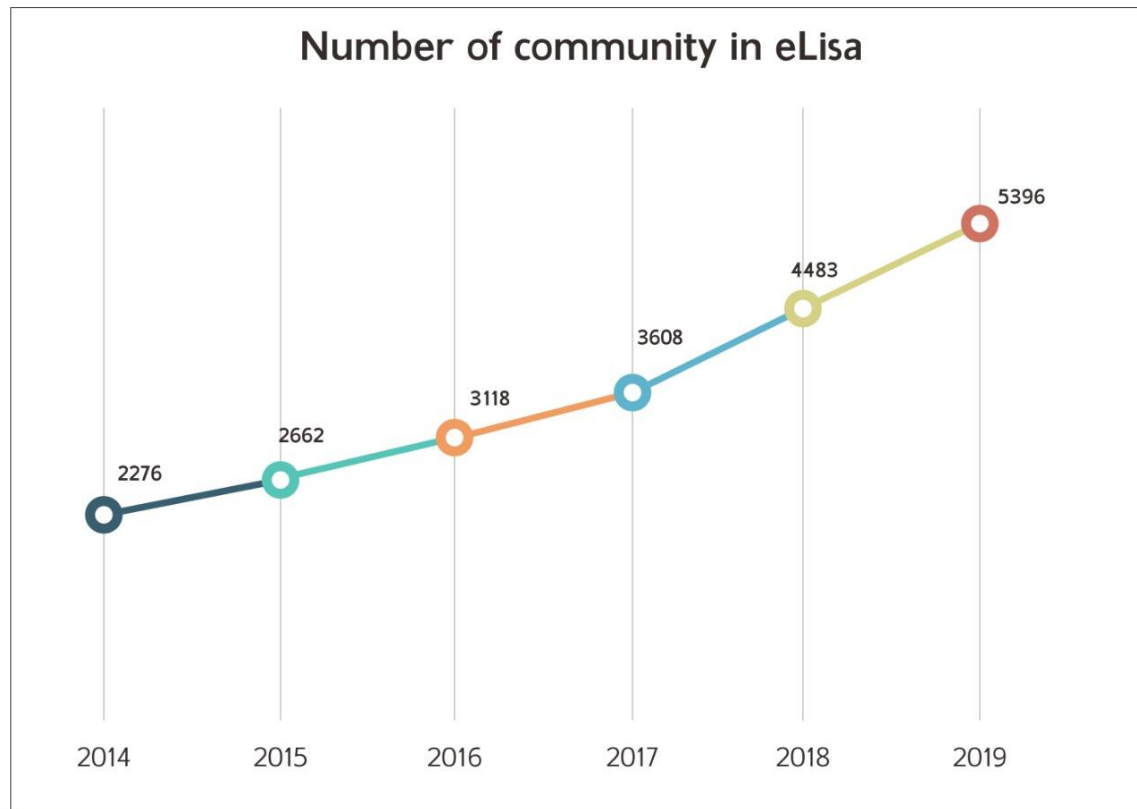
Science Channel by years



b. *Learning Management System*

eLisa (*eLearning System for Academic Community*) is a learning management system (LMS) developed by UGM to facilitate the learning process both in the context of lectures and online learning since 2004.

<http://elisa.ugm.ac.id>



b. Learning Management System

eLOK is an e-Learning system that supports for MOOC (Massive Open Online Course) at UGM. eLOK is part of an effort to educate the nation's life by utilizing technology.

<http://elok.ugm.ac.id>



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Course categories:

MOOC

Page: 1 2 3 4 (Next)

- Konsep Dasar Rekam Medis dan Informasi Kesehatan
- Imunologi Farmasi
- Proyek Sistem Informasi Manajemen Kesehatan
- 003-BDA1104-Percakapan Arab I
- 002-BIO30401-Genetika
- 004-KKU2212-Mikrobiologi
- 005-PTP3203-Teknologi Reproduksi Ternak
- 001-TIF216-Jaringan Komputer
- 011-Kecerdasan Buatan
- 007-MII-1202-Pemrograman 1
- 010-Konservasi Tanah dan Air

59

14

2017

2018

2019

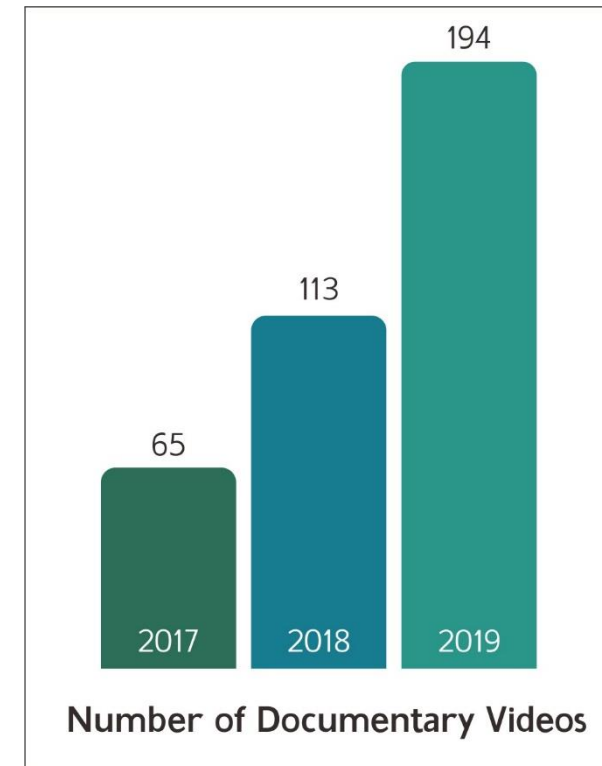
Courses in eLOK

The screenshot shows the eLOK website interface. At the top, there is a navigation bar with links for BERANDA, MATA KULIAH, TENTANG KAMI, FAQ, and KURSUS YANG SAYA IKUTI. Below this is a search bar with the text "Cari kursus". The main content area displays the course "EPI2018" and lists 10 learning materials. A sidebar on the right contains a "Navigasi" menu with options like "Rumah saya", "Beranda situs", "Halaman situs", "Kursus Yang Saya Ikuti", "HHT", "EPI2018", "Peserta", "Badges", "Competencies", and "Nilai".

c. Knowledge Dissemination



PIKA facilitates regular training for the faculty staff to produce learning contents in the scientific documentary. Academic activities of the education, research, and community service are disseminated as scientific documentary.





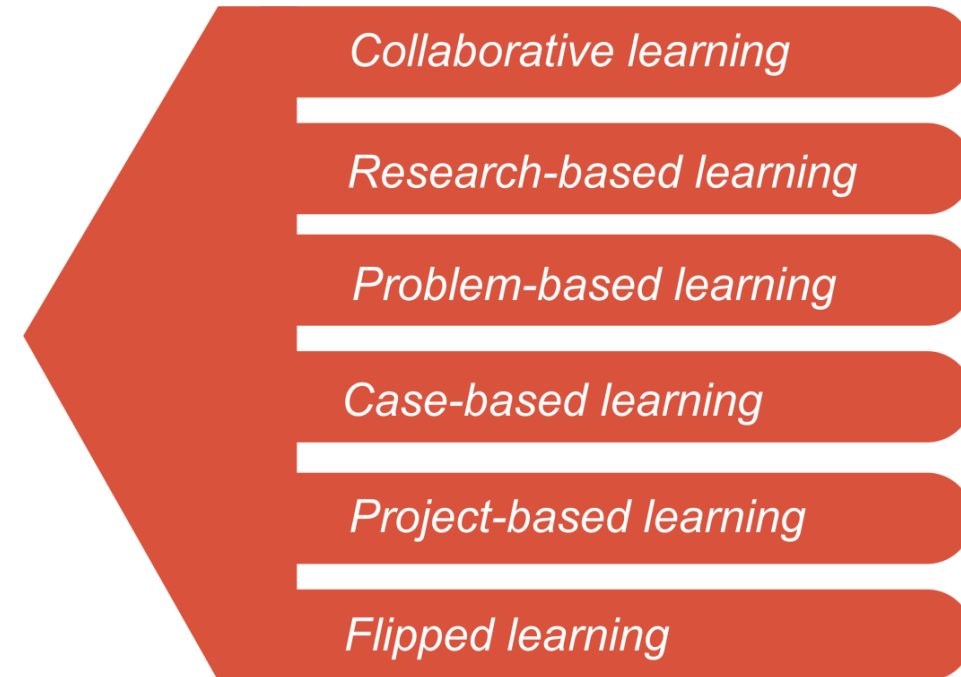
c. Academic Production House

Academic Production House (APH) dedicated to develop learning contents based on multimedia.

APH is supported with 10 mini studios in the faculties.



d. Innovative Learning Ecosystem





e. Co-Learning Space

Co-learning space is a need of millennial and post-millennial generation.
Co-learning space produces creativity, network, collaboration and idea factory.
UGM's Library has developed its function to facilitate the co-learning space.



f. Blended Learning



Learning process that combined face to face interaction in the class with online learning interaction and keep control the quality of learning process.



Blended Learning



Students conduct online learning interaction by synchronous or asynchronous.

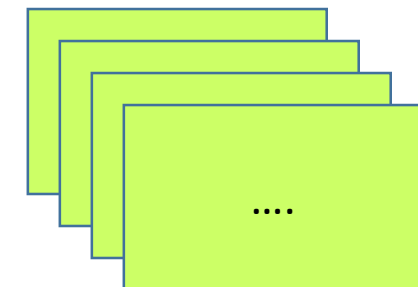
Interactions based on the designed of learning outcome and quality assurance.

Students also conduct face to face learning in class or laboratory

Spectrum Learning based on ICT



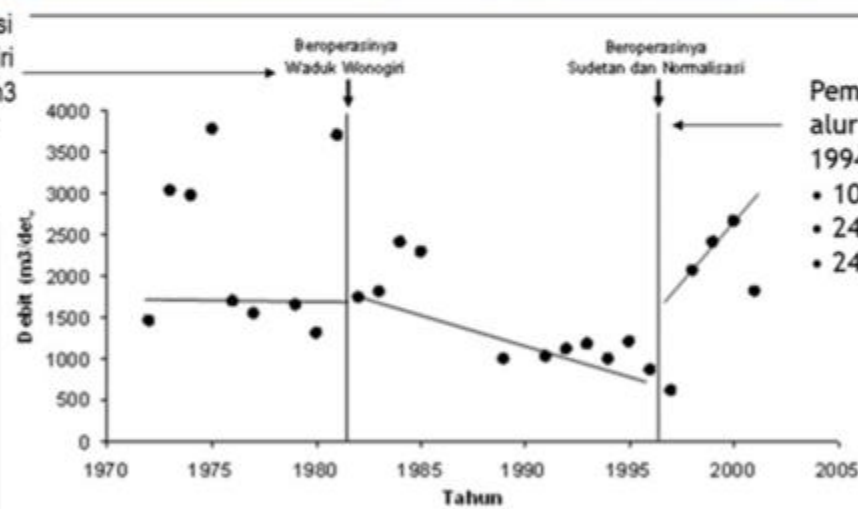
face-to face learning	Blended/hybrid learning	Distributed learning	teleconference	e-learning
Podcasting Webcasting	web-based learning	distance education	Distance Learning	Flexible learning
Open Learning	Open and distance learning	(fully) online learning	Technology-based learning	Technology-based training
Web-based training	Virtual learning	Mobile learning	Off campus learning	mobile learning
palm learning	ubiquitous learning	Open Educational Resources	Massive Open Online Courses	...



PENGARUH CC DAN ANTROPOGENIK TERHADAP PERUBAHAN TREND DEBIT SUNGAI DI BENGAWAN SOLO



1981 beroperasi
Waduk Wonogiri
Kap. 730 juta m³
4.000 m³/dt →
4.00 m³/dt



Pembangunan
alur sungai
1994-1996:
• 10,6 km pelurusan
• 24,2 km normalisasi
• 24,2 km tanggul

Pengaruh antropogenik lebih dominan sebagai penyebab banjir, dibandingkan Dengan pengaruh perubahan iklim di Bengawan Solo (Pawitan et al, 2009)

Participants



Dinda Larasati

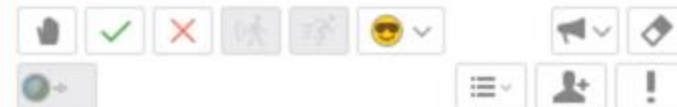
Panelist: 1

Hatma S (Host, me)

Attendees: 37

Adita Dwipuspa

Aditya Febiansah



Chat



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*You only have to know one thing:
"You can learn anything"
(Khan Academy)*



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