Megatrend 1
People & Society

The Roland Berger Trend Compendium 2050 focuses on stable long term developments …

> The **Roland Berger Trend Compendium 2050** is a global trend study compiled by **Roland Berger Institute (RBI)**, the think tank of Roland Berger. Our Trend Compendium 2050 describes the **most important megatrends** shaping the world between **now and 2050**

> Our **trend views are based on expert sources and assessments.** Estimates reflect the normal case, i.e. a stable development of the global economy

> To incorporate today's uncertainties into strategic planning, we recommend **combining the megatrends of the Roland Berger Trend Compendium 2050** with the **Roland Berger scenario planning approach**

Is it worth dealing with megatrends when there are such drastic global events as the Corona pandemic taking place?

Clearly yes! The Corona pandemic has far-reaching consequences and affects us deeply, all within a very short time – but in itself the pandemic does not set aside the megatrends here analyzed. Such is the inherent nature of megatrends: Climate change, the aging of society or the ongoing evolution of technology do not lose their overriding direction or importance. To cope with such challenges – and to master resulting opportunities – our awareness and understanding of these megatrends is paramount in order to develop sustainable answers

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… and covers six megatrends that shape the future development of our world until 2050

1 People & Society

Population

Migration

Values

Education

2 Health & Care

Pandemics & Other Wildcards

Diseases & Treatments

Caregiving

3 Environment & Resources

Climate Change & Pollution

Resources & Raw Materials

Ecosystems at Risk

4 Economics & Business

Globalization Revisited

Power Shifts

Sectoral Transformation

Debt Challenge

5 Technology & Innovation

Value of Technology

Artificial Intelligence

Humans & Machines

6 Politics & Governance

Future of Democracy

Governance & Geopolitics

Global Risks

1 Population

2 Migration

3 Values

4 Education

Beyond mere demographics, people and society are at the core of our thinking – People are on the move, rely on values and are eager to learn

Subtrends of megatrend "People & Society"
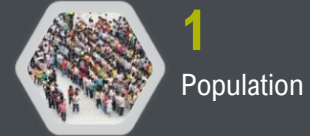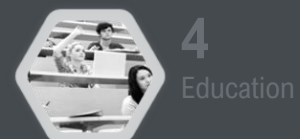
1

2

3

4

Population

Migration

Values

Education

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Population trends toward 2050 point at a myriad of changes across the globe – For continents and countries, their growth rates and age structures

Global population trends – Selected facts & figures

In 2050, **1.9 billion more people** will inhabit our planet (2020: 7.8 billion 2050: 9.7 billion)

World population growth is fueled by growth in less developed countries. **Population in Sub-Saharan Africa will double** from 2020 to 2050

Our world is **aging.** In **2050** there will be more than 1.5 billion people aged 65+ years (2020: 727 million) and **3.2 million aged 100+**

Despite global aging, huge **differences** in the **median age** of countries persist in 2050: **Niger: 19.0 years vs. South Korea: 56.5**

Around 2027, **India** is expected to overtake China as the world's **most populous country.** In 2050, India will have more than 1.6 billion inhabitants

Standing side by side, the **predicted 9.7 billion strong population of 2050 would span the equator more than 240 times.** However, average global population density will only rise to 71 people per sq km[1] – a quarter of the population density of the United Kingdom today

1) Calculated with the Earth's land area without Antarctica
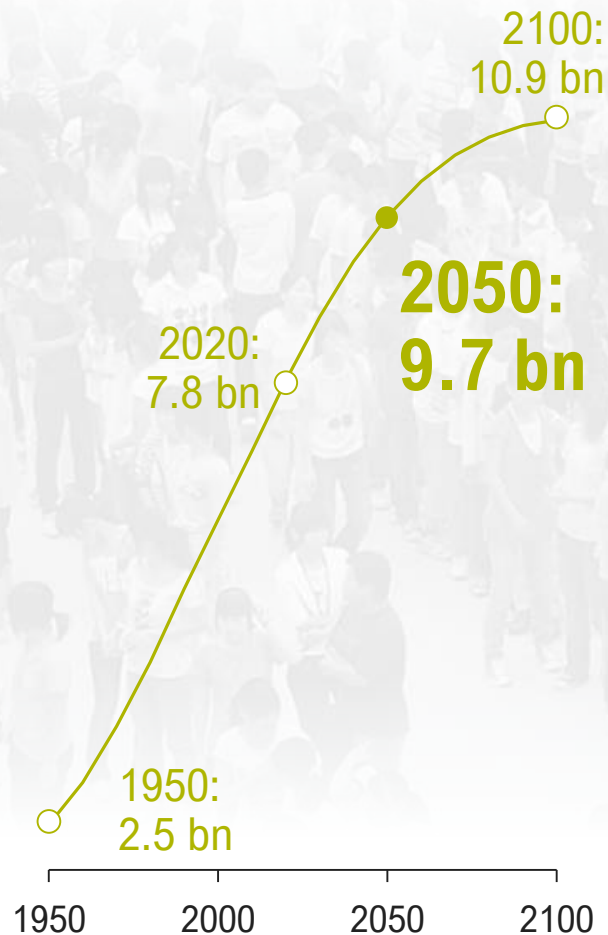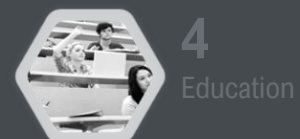Sources: UN Population Division; Roland Berger

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The rate of population growth is decreasing due to lower fertility rates – In 2050, a vast majority of the 9.7 billion will live in less developed regions

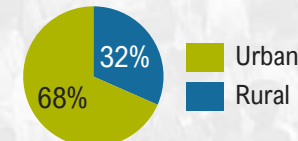## Evolution of world population 1950-2100 [bn]

2100: 10.9 bn

2050: 9.7 bn

2020: 7.8 bn

1950: 2.5 bn

1950   2000   2050   2100

Global population characteristics 2050 [%]

Economic origin of inhabitants
- 13% / 87%
- Less developed regions
- Developed regions

Residential area of inhabitants[1]
- 32% / 68%
- Urban
- Rural

Age of inhabitants
- 16% / 28% / 56%
- 0-19 years
- 20-64 years
- 65+ years

Life expectancy at birth
- 20% / 26% / 54%
- <70 years
- 70-80 years
- >80 years
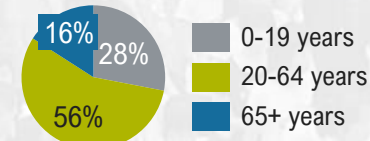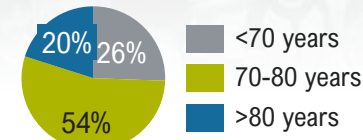
> According to the UN medium variant prediction, the **world population will grow at a slower pace** between 2020 and 2050 compared to previous decades, reaching a population of **9.7 billion in 2050**

> The **evolution of the world population is driven by two factors:** The evolution of fertility rates and the evolution of life expectancy
  – **Global fertility rates** are expected to **decrease** from 2.5 births per woman in 2020 to 2.2 births per woman in 2050. This lowers the rate of population growth
  – **Average life expectancy** is expected to **increase** from 72.3 years in 2020 to 76.8 years in 2050. This drives population growth, but cannot totally compensate for decreasing fertility rates

> In 2050, the **majority** of the global population will stem from **less developed regions,** resides in **urban areas,** is between **15 and 64 years old,** and has a **life expectancy of 70-80 years**

1) The definition of urban areas follows the definitions that are used in each country
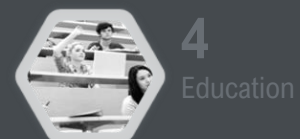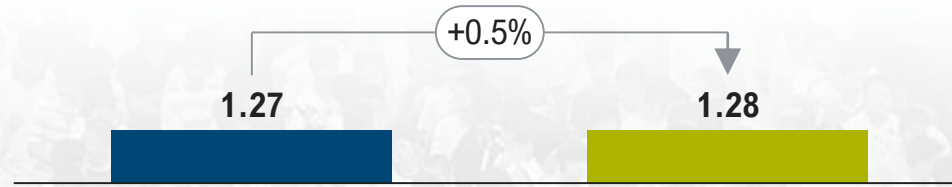Sources: UN Population Division; Roland Berger
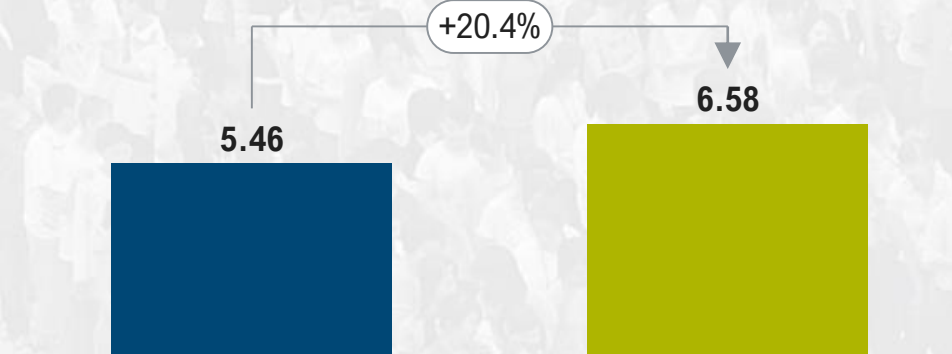
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Future population growth takes place in developing countries – Population of the poorest countries is expected to grow by nearly 80% towards 2050

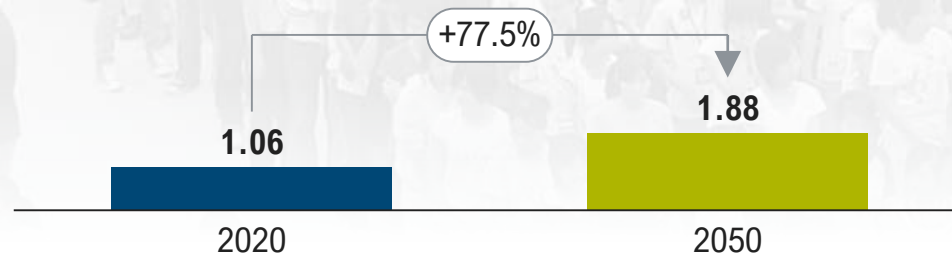Population growth by regions between 2020 and 2050[1] [bn]

More developed

1.27 → +0.5% → 1.28

Less developed (excl. least developed)

5.46 → +20.4% → 6.58

Least developed

1.06 → +77.5% → 1.88

2020   2050

> Population in developed regions is projected to grow only slightly by 0.5% from 2020 to 2050 to 1.3 billion people, while the population in less developed regions is expected to grow by 20.4% or 1.1 billion people over the same period, reaching 6.6 billion people in 2050. Notably, the **highest growth is expected for least developed regions** with an increase of 77.5% or 800 million people

> More than other countries, **least developed countries** (LDCs) face **the risk of deeper poverty** and remaining in a situation of underdevelopment. Over 75% of the LDCs' population live in poverty, **facing several challenges** such as lack of key resources (water, food, energy) and a sufficient level of social security, healthcare and basic education

1) According to the UN, more developed regions comprise Europe, Northern America, Australia/New Zealand and Japan. Less developed regions comprise all regions of Asia (except Japan), Latin America and the Caribbean plus Melanesia, Micronesia, Polynesia, and African countries. The latter are largely excluded in our diagram as we separated the least developed regions from the less developed. The group of least developed countries (LDCs) includes 47 countries: 32 in Sub-Saharan Africa, 2 in Northern Africa and Western Asia, 4 in Central and Southern Asia, 4 in Eastern and South-Eastern Asia, 1 in Latin America and the Caribbean, 4 in Oceania. According to the UN LDCs are those countries that are deemed highly disadvantaged in their development process, for structural, historical and also geographical reasons
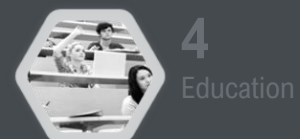
Sources: UN Population Division; Roland Berger

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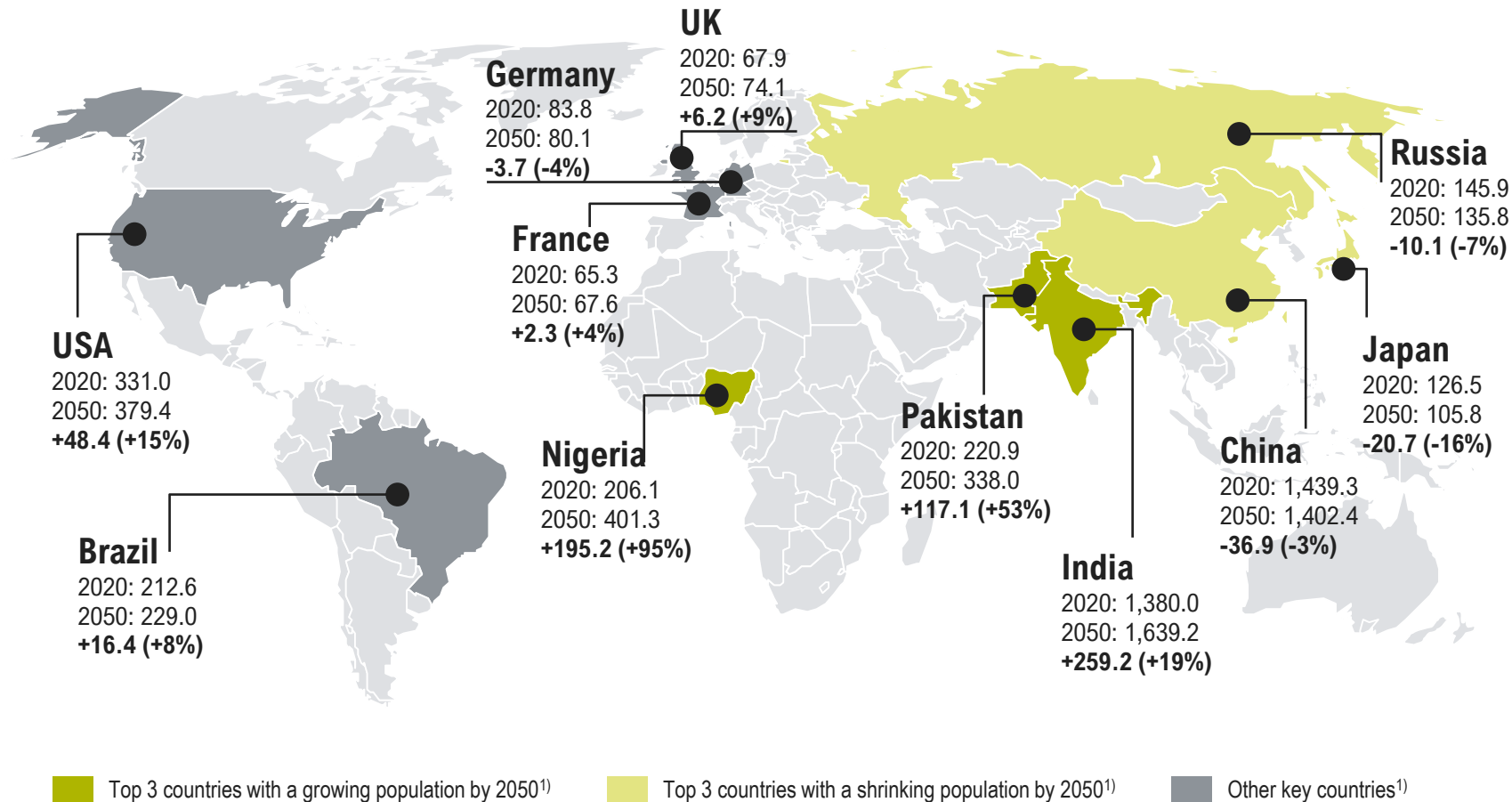
30% of total worldwide population growth between now and 2050 is expected to take place in three countries: India, Nigeria and Pakistan

Key countries in terms of absolute population growth/decline between 2020 and 2050 [m]

UK
2020: 67.9
2050: 74.1
+6.2 (+9%)

Germany
2020: 83.8
2050: 80.1
-3.7 (-4%)

France
2020: 65.3
2050: 67.6
+2.3 (+4%)

Russia
2020: 145.9
2050: 135.8
-10.1 (-7%)

Japan
2020: 126.5
2050: 105.8
-20.7 (-16%)

USA
2020: 331.0
2050: 379.4
+48.4 (+15%)

Brazil
2020: 212.6
2050: 229.0
+16.4 (+8%)

Nigeria
2020: 206.1
2050: 401.3
+195.2 (+95%)

Pakistan
2020: 220.9
2050: 338.0
+117.1 (+53%)

China
2020: 1,439.3
2050: 1,402.4
-36.9 (-3%)

India
2020: 1,380.0
2050: 1,639.2
+259.2 (+19%)

Top 3 countries with a growing population by 2050[1]
Top 3 countries with a shrinking population by 2050[1]
Other key countries[1]

> Although global population growth will continue to 2050, a closer look reveals **strongly diverging population growth rates** between countries

> **Nigeria** is expected to almost double its population by 2050 (**+195 million**), **Pakistan** will increase by over half (**+117 million**), and **India** grows by almost 20% or **259 million** people. These countries still have high fertility rates

> Other countries, such as **China, Japan, Germany or Russia,** face a **decrease in population.** The main reasons are a low fertility rate and a large cohort of older people

1) Top 3 by absolute numbers; estimates are based on the UN medium-variant projection
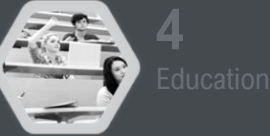Sources: UN Population Division; Roland Berger

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1 Population

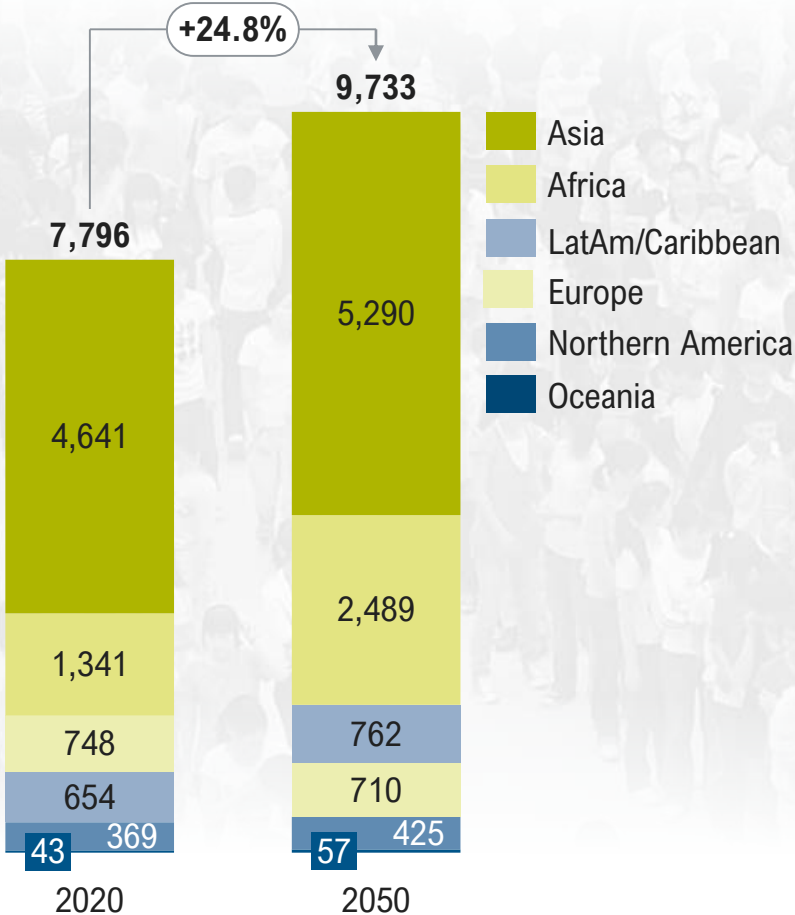**2** Migration

3 Values

4 Education

Over the next three decades, Africa's population will increase by more than 1.1 billion – Asia remains the world's population giant

Population by continent
2020 and 2050 [m]

+24.8%

7,796 → 9,733

Legend	
Asia	
Africa	
LatAm/Caribbean	
Europe	
Northern America	
Oceania	

2020
- Asia: 4,641
- Europe: 1,341
- 748
- 654
- 369
- 43

2050
- Asia: 5,290
- 2,489
- 762
- 710
- 425
- 57

Top five countries per region by population
2050 [m][1]

Region					
Asia	India 1,639	China 1,402	Pakistan 338	Indonesia 331	Bangladesh 193
Africa	Nigeria 401	Ethiopia 205	D.R. Congo 194	Egypt 160	Tanzania 129
LatAm/ Caribbean	Brazil 229	Mexico 155	Colombia 56	Argentina 55	Peru 40
Europe	Russia 136	Germany 80	UK 74	France 68	Italy 54
Northern America	USA 379	Canada 46			
Oceania	Australia 33	Papua N. Guinea 14	New Zealand 6		

1) Only countries with at least 5 million inhabitants are included
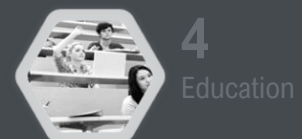Sources: UN Population Division; Roland Berger

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1 **Population**
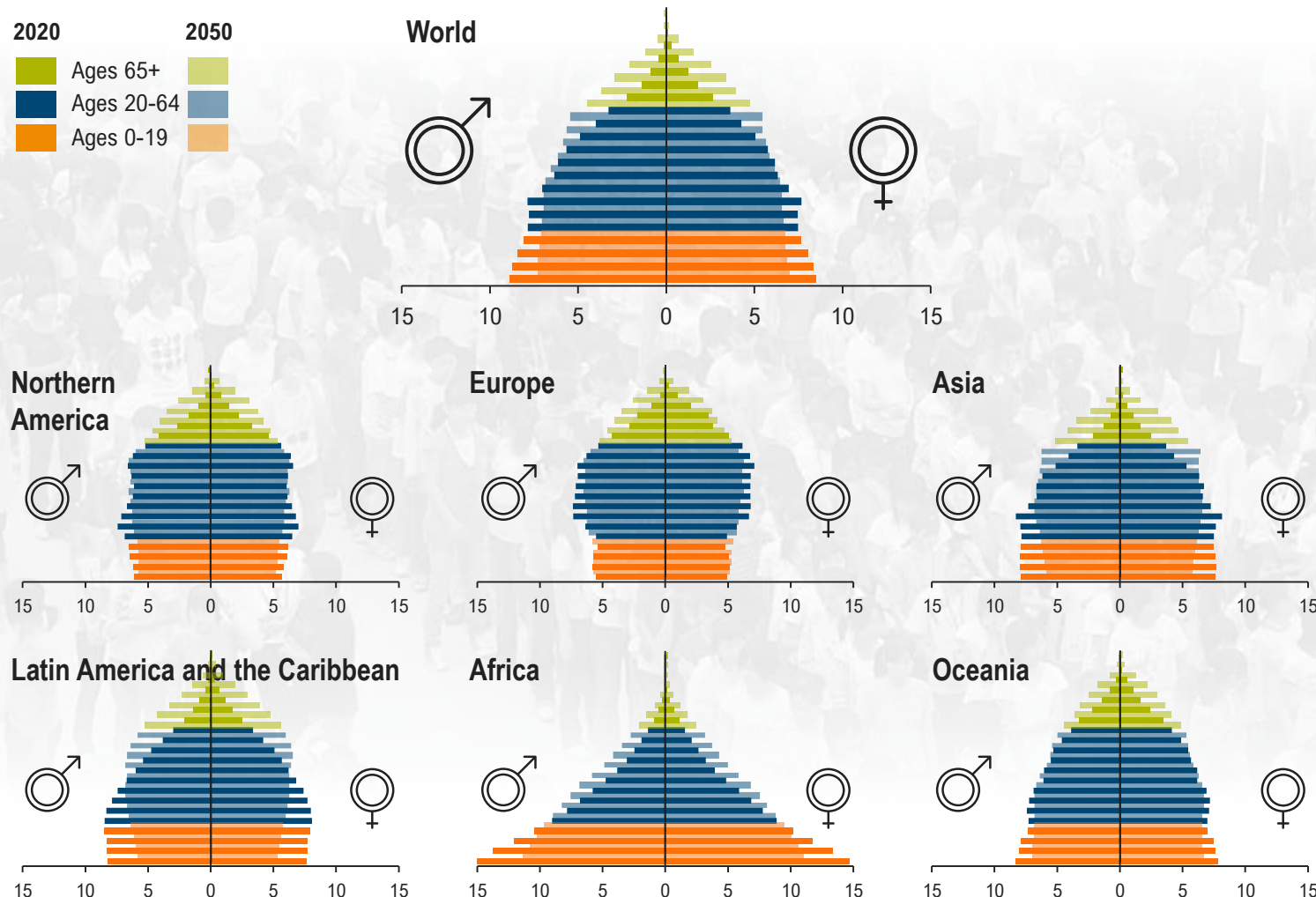
2 Migration

3 Values

4 Education

The global population pyramid is becoming visibly sturdier in all regions except Africa, the region with the highest share of a younger population

Distribution of the world's population by age and sex in % of population, 2020

2020 **2050**

- Ages 65+
- Ages 20-64
- Ages 0-19

World

15 10 5 0 5 10 15

Northern America

15 10 5 0 5 10 15

Europe

15 10 5 0 5 10 15

Asia

15 10 5 0 5 10 15

Latin America and the Caribbean

15 10 5 0 5 10 15

Africa

15 10 5 0 5 10 15

Oceania

15 10 5 0 5 10 15

> **Shifts** in **fertility** and **mortality** are **reshaping population age distributions**

> Although **population aging is a global phenomenon** to be observed on every continent, **regionally, population distributions vary** widely and will continue to do so

> Where **fertility** declines and **life expectancy** rises, the proportion of the younger population decreases while that of older ages rises

> While **Africa remains the continent with the highest share of a younger population,** Europe's population is (and will be) the oldest one

> A **notable transition** can be observed in **Latin America and the Caribbean**, where the population distribution will show a very different shape in 2050 compared to the present one
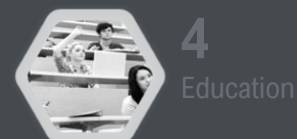
Sources: UN World Population Division; Roland Berger

Roland Berger
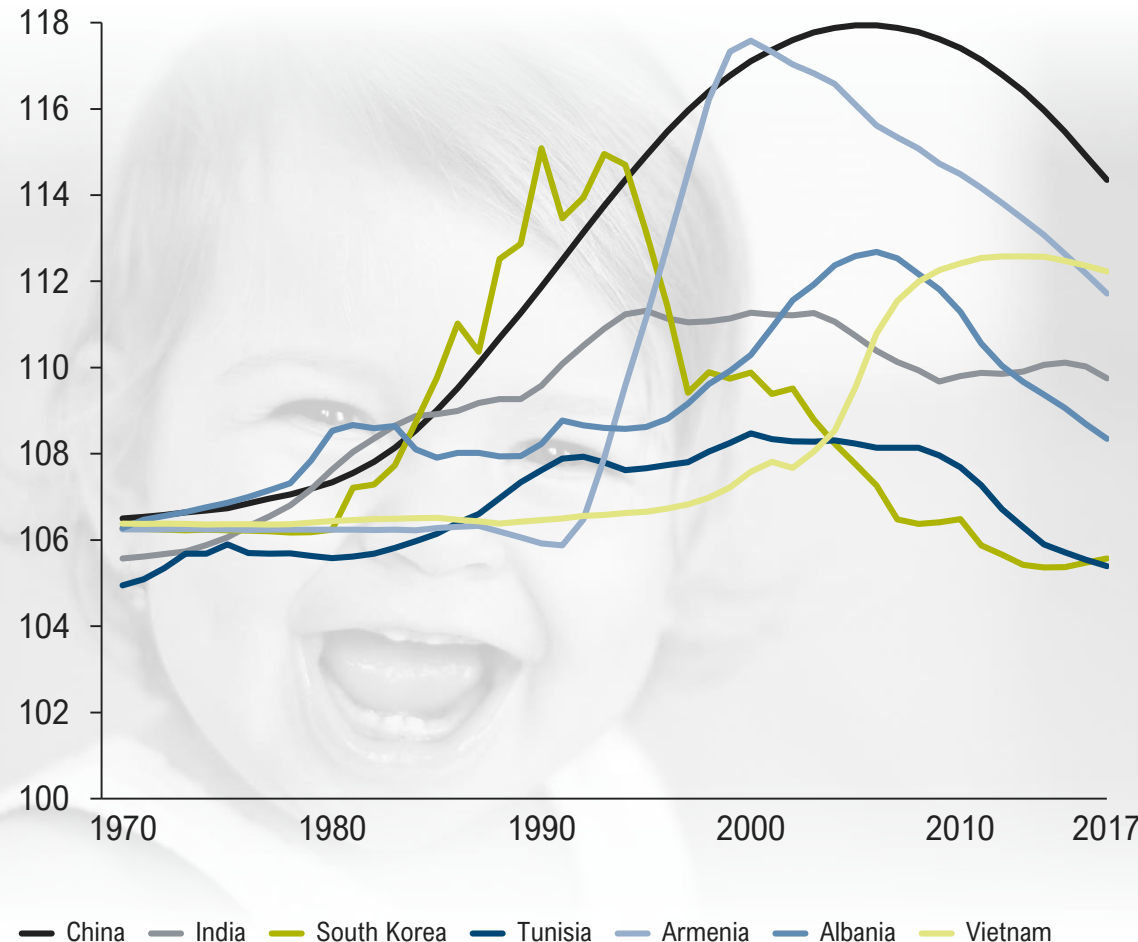
Broadly symmetrical population pyramids only tell half the story – Some larger countries face gender ratio imbalances for some time to come

Sex ratio at birth (SRB), selected countries showing SRB imbalance, 1970 to 2017

Legend: — China · — India · — South Korea · — Tunisia · — Armenia · — Albania · — Vietnam

> The ratio between the number of males and females in a society is referred to as the **gender ratio,** which at first glance and globally speaking appears broadly balanced. On average, the so-called 'expected', i.e., natural or biological **sex ratio at birth (SRB)** is **around 105 males per 100 females.** This ratio has an impact on society, demography, and the economy for generations down the line

> In some countries, the sex ratio at birth is too skewed to be explained by biological volatility; most recently, Chao et al. (2019) re-modelled SRB across the world with data from 1950-2017. As a result, the study identified **12 countries/areas** with strong statistical evidence of **SRB imbalances:** Albania, Armenia, Azerbaijan, China, Georgia, Hong Kong, India, Montenegro, South Korea, Taiwan, Tunisia, and Vietnam

> These countries show a **son preference**. Major reasons why sons are preferred are their higher wage-earning capacity, that they continue the family line, and that they are generally recipients of inheritance

> From 1970 to 2017, the **cumulative number of missing female births** (CMFB) for the 12 countries/areas above is **45 million.** The majority of CMFB between 1970 and 2017 are concentrated in **China**, with **23.1 million**, and in **India**, with **20.7 million**

> Most of these countries showed a **significant increase of the SRB imbalance** in the 1980s/90s. The introduction and wider availability of ultrasound to determine the sex of the fetus might be one reason for this. In China, the one-child-policy strongly influenced the SRB

> Trend reversal: **Countermeasures to fight SRB imbalances**, such as the strict enforcement of existing legislation, the ensuring of equal rights for women, and public awareness campaigns (and in China the relaxation of the one-child-policy) **led to a decrease of the uneven SRB in recent decades**

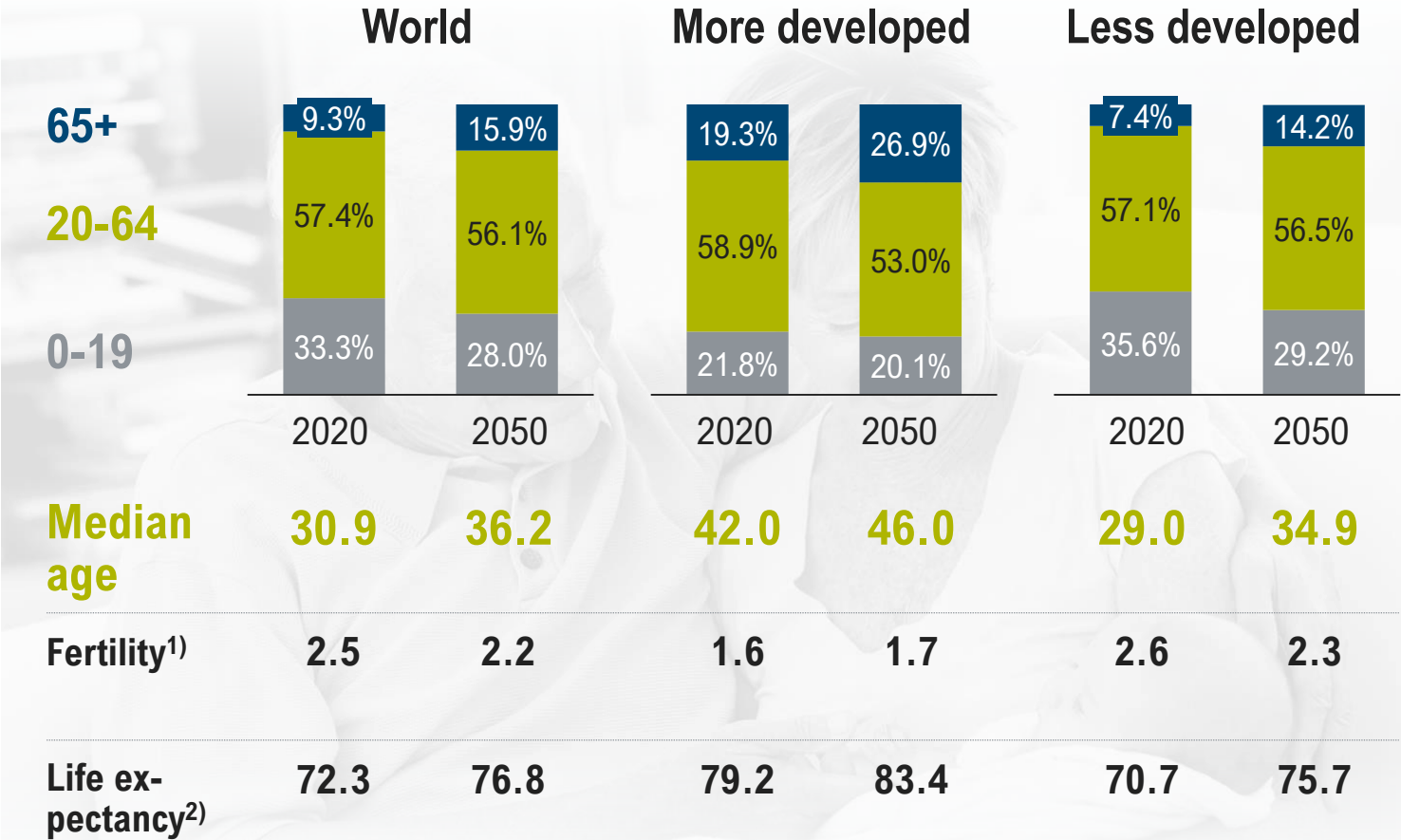Sources: Chao et al.; Hesketh and Xing; Roland Berger

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By 2050, the global median age will increase by 5.3 years – Half of the world's population will be older than 36 years

Age groups and median age [%, years]

	World		More developed		Less developed	
	2020	2050	2020	2050	2020	2050
65+	9.3%	15.9%	19.3%	26.9%	7.4%	14.2%
20-64	57.4%	56.1%	58.9%	53.0%	57.1%	56.5%
0-19	33.3%	28.0%	21.8%	20.1%	35.6%	29.2%
Median age	**30.9**	**36.2**	**42.0**	**46.0**	**29.0**	**34.9**
Fertility[1]	2.5	2.2	1.6	1.7	2.6	2.3
Life ex-pectancy[2]	72.3	76.8	79.2	83.4	70.7	75.7

> **Population aging** is a global phenomenon: Virtually every country in the world is experiencing growth in its share of older people within its population. Globally in 2020, there were 728 million **people aged 65 years or over – this is projected to double** to 1.5 billion in 2050

> **Drivers** of global aging are two-fold: **declining fertility rates** and **increasing longevity**, the latter due to improvements in healthcare and better living conditions

> **Life expectancy** at age 65 is projected to **increase in all countries**. Globally and on average, a person aged 65 years in 2015-2020 could expect to live 17 more years – increasing to 19 years by 2045-2050

> Women currently outlive men by 4.8 years, but this **global gender longevity gap is expected to narrow** over the next three decades

> The **median age will rise** in both developed regions (+4 years = 46 years) and developing regions (+5.9 years = 34.9 years)

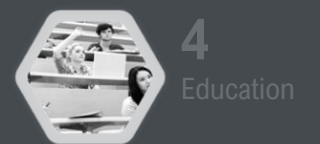1) Live births per woman, average 2015-2020 (2020) resp. 2045-2050 (2050)
2) Life expectancy at birth [years], average 2015-2020 (2020) resp. 2045-2050 (2050)
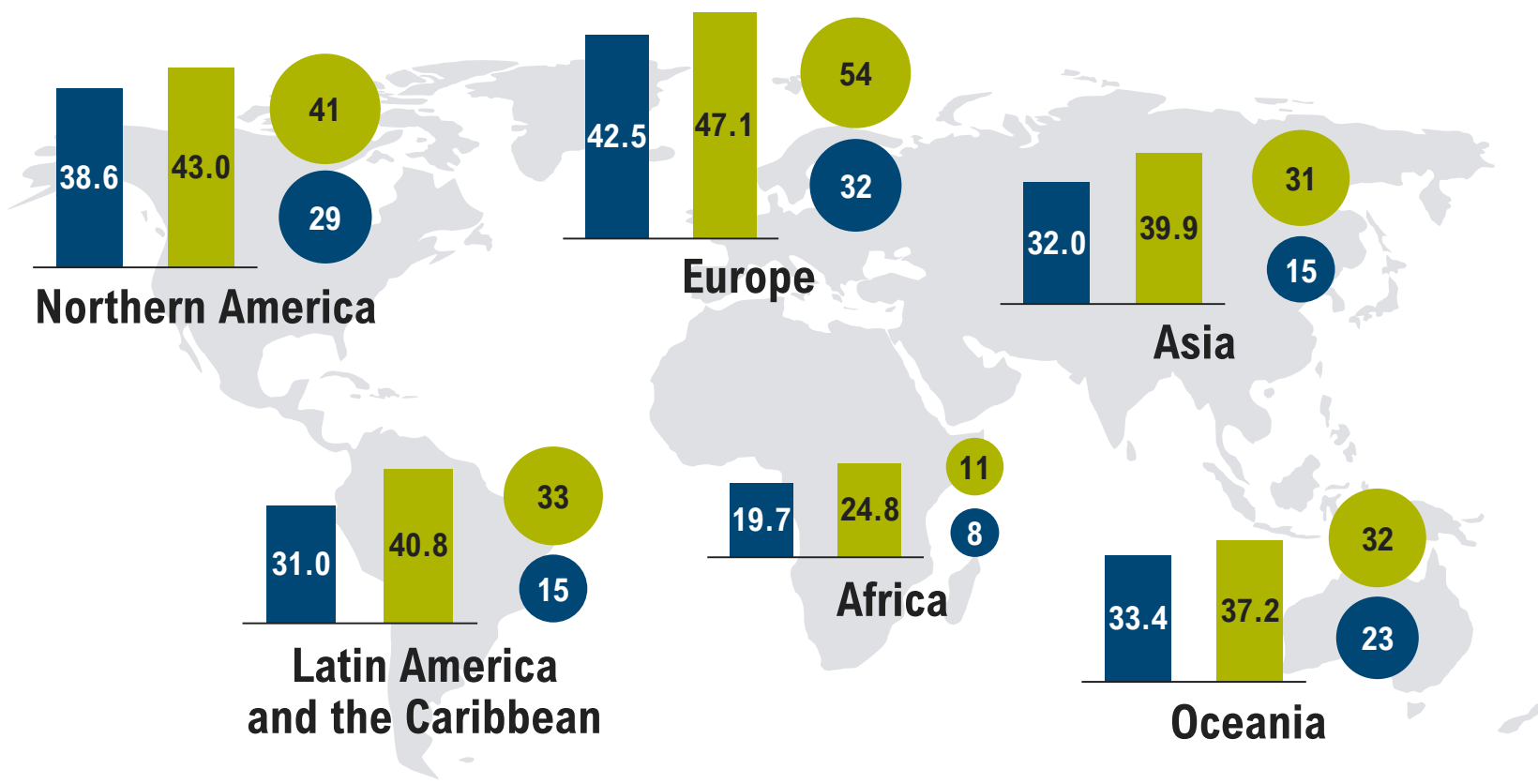Sources: UN Population Division; Roland Berger

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All regions are aging, with fewer people of working age having to support more older people – Interregional differences remain significant

Median age [years] and old-age dependency ratio by region 2020 vs. 2050 [people 65+ / 100 people 20-64]

Northern America — 38.6 / 43.0 — 41 / 29

Europe — 42.5 / 47.1 — 54 / 32

Asia — 32.0 / 39.9 — 31 / 15

Latin America and the Caribbean — 31.0 / 40.8 — 33 / 15

Africa — 19.7 / 24.8 — 11 / 8

Oceania — 33.4 / 37.2 — 32 / 23

> The old-age dependency ratio is the number of people aged **65+** (**people** who are typically **not in the labor force**) per 100 people aged **20-64** (people who are typically **in the labor force**). For example, in Europe in 2050, 100 working-age people will have to support 54 people aged 65+, up from 32 people aged 65+ in 2020

> A **high or increasing old-age dependency ratio** can be a **burden** as it causes **high(er) expenditure** on pensions, health and care

> However, this ratio ignores that **people above the age of 65 are not necessarily dependent on support** as a rising proportion is in work; reversely not all of those considered of working age are actually in work

Median age: ■ 2020 ■ 2050   Old-age dependency ratio: ● 2020 ● 2050
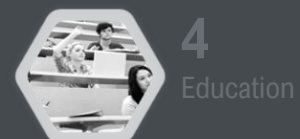
Sources: UN Population Division; Roland Berger

Roland Berger
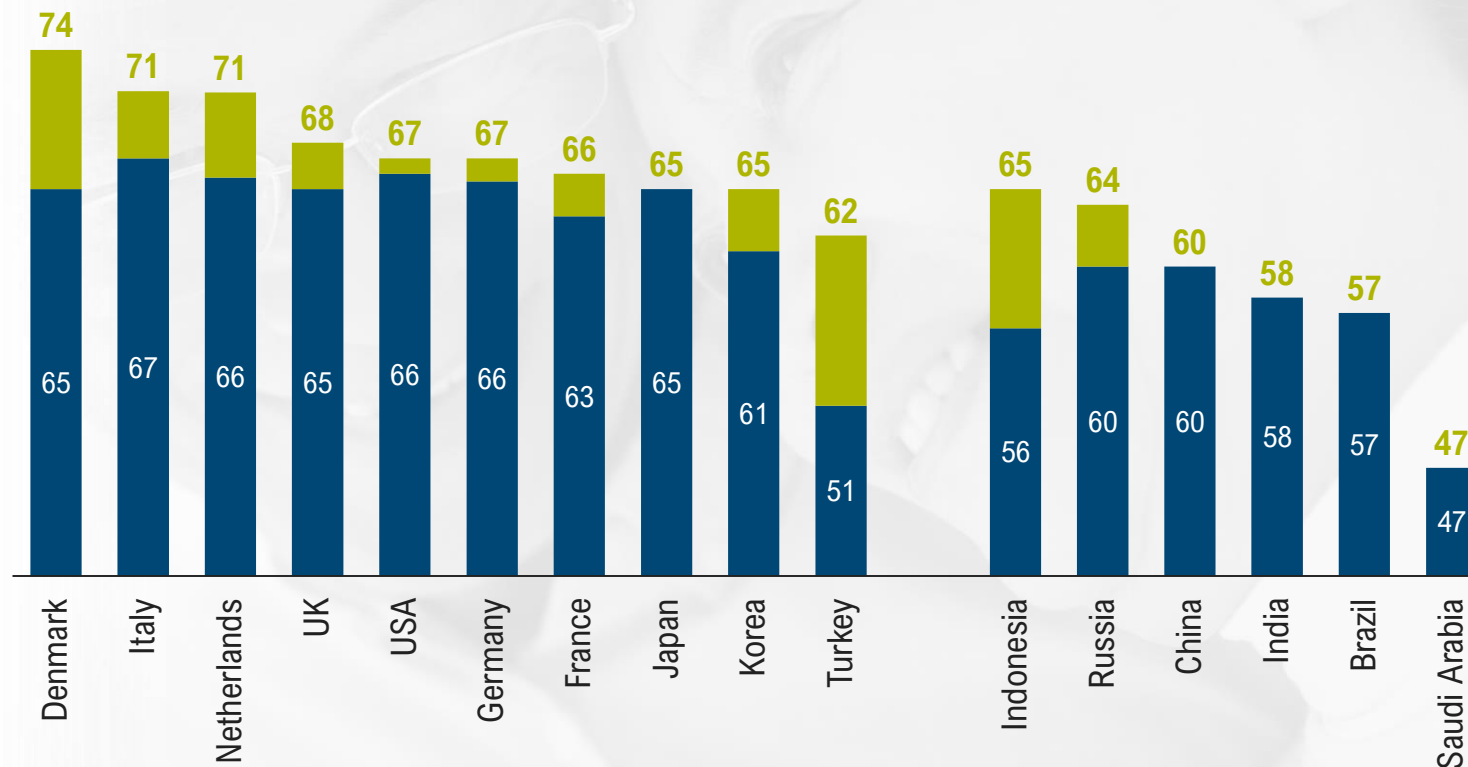
Future retirement ages will continue to rise in most countries – The pandemic is heightening the need for further retirement reforms

Normal retirement age for men current (2018) and prospective, selected OECD and non-OECD countries[1] [years]

	Current	Prospective
Denmark	65	74
Italy	67	71
Netherlands	66	71
UK	65	68
USA	66	67
Germany	66	67
France	63	66
Japan	65	65
Korea	61	65
Turkey	51	62
Indonesia	56	65
Russia	60	64
China	60	60
India	58	58
Brazil	57	57
Saudi Arabia	47	47

■ Current ■ Prospective

> Future normal **retirement ages will continue to rise** for both men and women, albeit at different rates

> **On average** across all **OECD countries** and assuming labor market entry at age 22 in 2018, the normal retirement age will increase from **64.2 to 66.1 for men** and from **63.5 to 65.7 for women**

> Currently, **gender differences in the normal retirement age** exist in around one-third of OECD countries but these **will be mostly phased out after 2050** apart from a very small number of countries (Switzerland, Poland, Israel)

> The economic crisis triggered by the coronavirus pandemic has heightened the strain on the **future** of **national pension systems** – billions of people now face working longer, or having less income in later life; governments will need to adopt a **significant range of reforms** to shore up long-term outcomes for future pensioners and their security in retirement

1) The current retirement age is calculated for a man with a full career from age 22 and based on the year 2018. Prospective refers to the year in which a person is eligible for full retirement benefits from all mandatory components in a country, without reduction, assuming labor market entry at age 22 in 2018
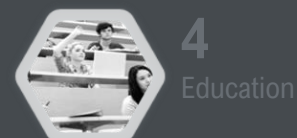Source: OECD; Roland Berger

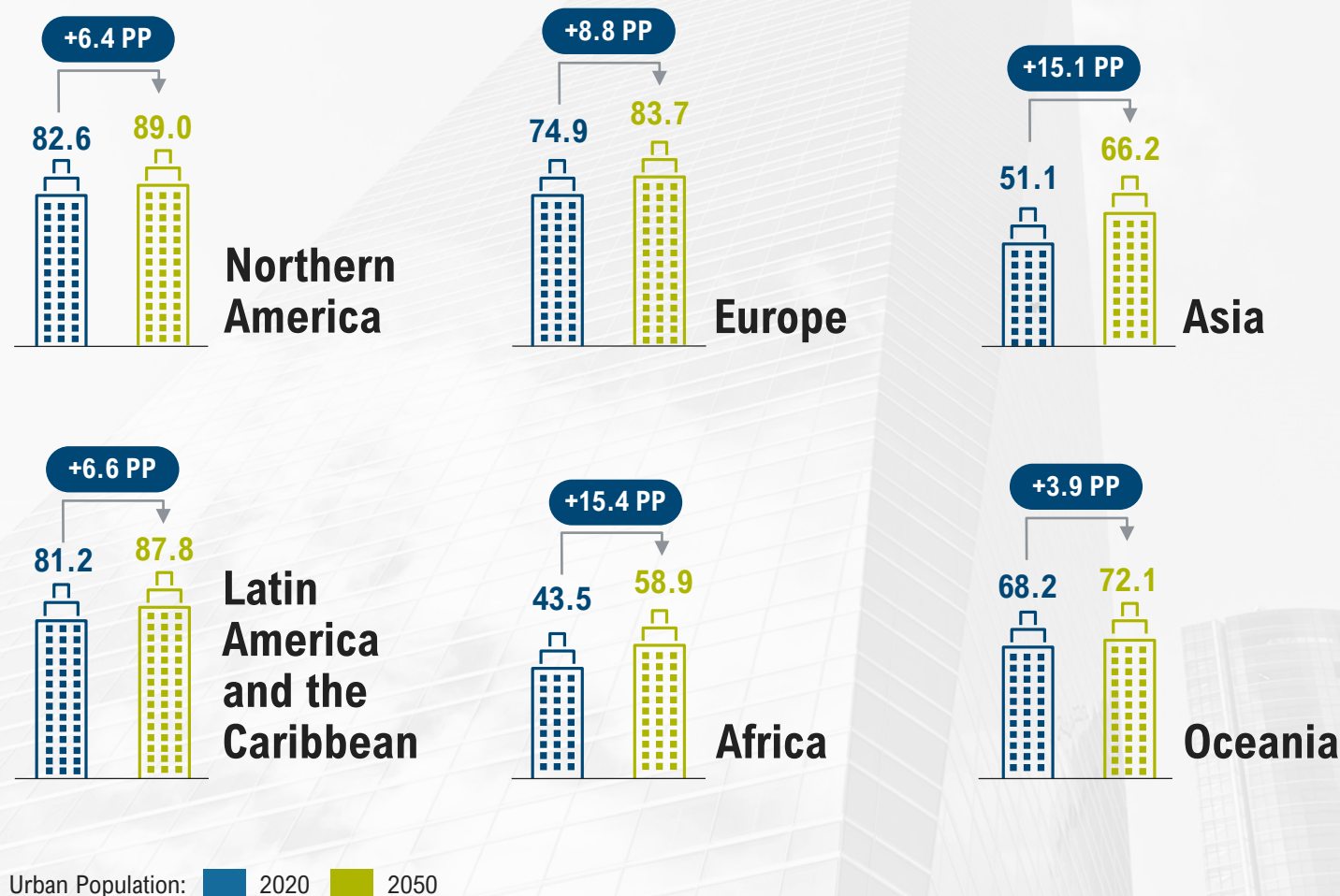Roland Berger

1 Population

2 Migration

3 Values

4 Education

The number of people living in urban areas will reach unprecedented heights globally – Highest growth in Asia and Africa

Inhabitants living in urban areas, 2020 and 2050 [% of total population]

+6.4 PP — 82.6 → 89.0 — **Northern America**

+8.8 PP — 74.9 → 83.7 — **Europe**

+15.1 PP — 51.1 → 66.2 — **Asia**

+6.6 PP — 81.2 → 87.8 — **Latin America and the Caribbean**

+15.4 PP — 43.5 → 58.9 — **Africa**

+3.9 PP — 68.2 → 72.1 — **Oceania**

Urban Population: ■ 2020 ■ 2050

> **Today, 55%** of the world's population live in **urban areas**; this is expected to increase to **68% by 2050**
> **Northern American, European and Latin American countries** are already showing **high levels of urbanization**. As this development continues to 2050, more than four fifths of the population in these regions will live in urban areas
> Historically levels of urbanization in **African and Asian countries** have been lower; yet these countries will experience a **significant increase by 2050**, and as a result far more than half of their populations will live in urban areas
> **The dominant reason for growing urbanization is economic development.** In developing and emerging markets in particular, people are moving from rural areas seeking employment in expanding industry and service sectors predominantly concentrated in and around urban agglomerations

1) The definition of urban areas follows the definitions that are used in each country. These definitions can vary widely
Sources: UN World Urbanization Prospects; Roland Berger

A closer look at selected countries reveals significant differences in the degree of urbanization

Degree of urbanization in selected countries per region in 2050 [% of total population]

Northern America

Canada 87.3%

USA 89.2%

Europe

Sweden 93.2%
France 88.3%
Germany 84.3%
Italy 81.1%

UK 90.2%
Spain 88.0%
Russia 83.3%

Romania 66.7%

Channel Islands 39.4%

Asia

UAE 92.4%
China 80%

Japan 94.7%
South Korea 86.4%

Indonesia 72.8%

India 52.8%

Afghanistan 41.2%

Sri Lanka 31.6%

Latin America and the Caribbean

Argentina 95.2%
Chile 91.8%
Mexico 88.2%
Peru 85.7%

Brazil 92.4%
Venezuela 91.9%
Colombia 88.8%

Guatemala 67.2%

Belize 57.1%

Africa

Algeria 84.5%

South Africa 79.8%

Nigeria 69.9%

DR Congo 63.8%

Egypt 55.6%

Kenya 46.3%

Uganda 44.1%

Niger 28.4%

Oceania

Australia 91.0%

New Zealand 91.1%

Papua New Guinea 24.0%

Sources: UN Population Division; Roland Berger

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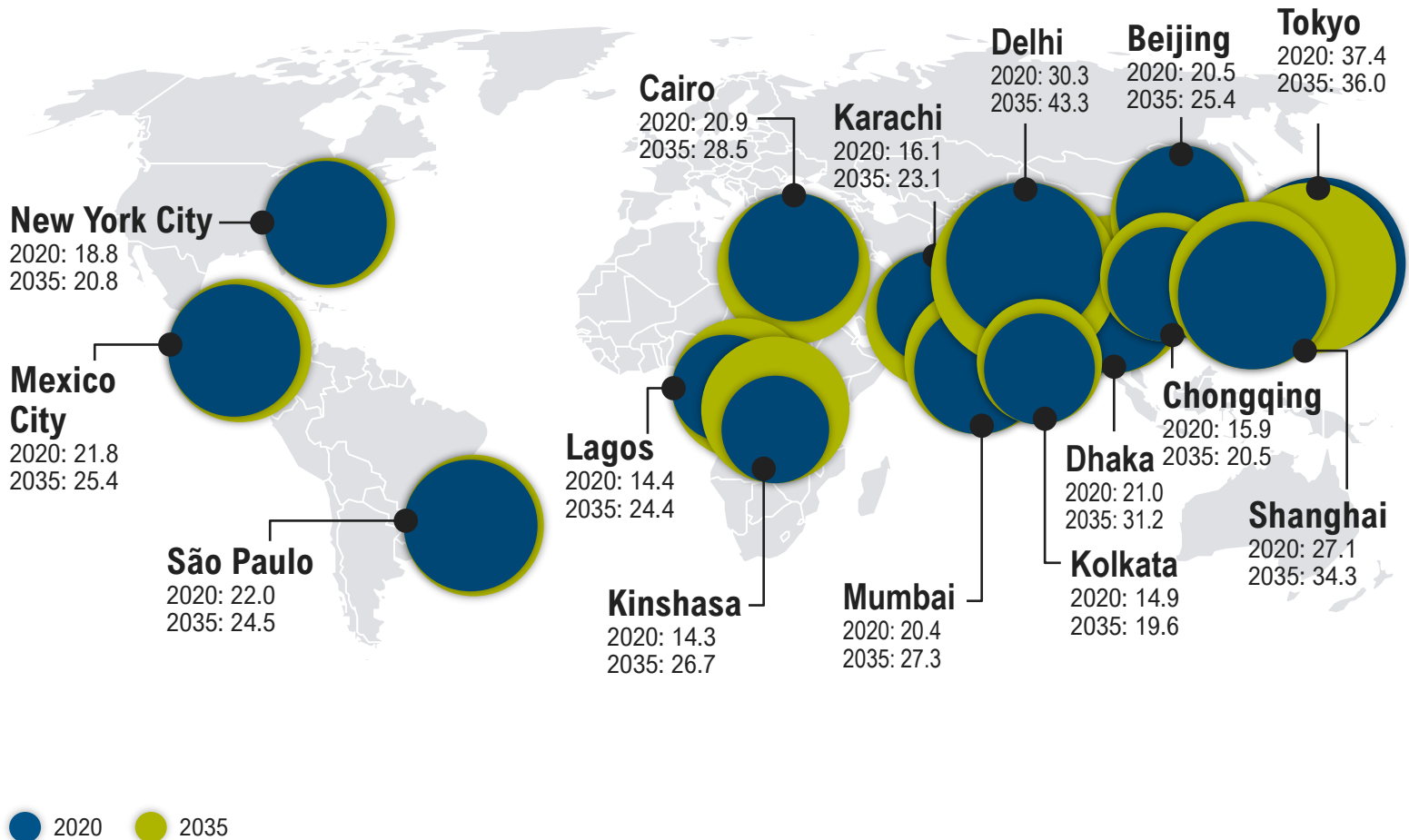# Nine of the fifteen biggest urban agglomerations in 2035 will be located in Asia

Population development of the 15 biggest urban agglomerations to 2035 [m]

Tokyo
2020: 37.4
2035: 36.0

Delhi
2020: 30.3
2035: 43.3

Beijing
2020: 20.5
2035: 25.4

Cairo
2020: 20.9
2035: 28.5

Karachi
2020: 16.1
2035: 23.1

New York City
2020: 18.8
2035: 20.8

Mexico City
2020: 21.8
2035: 25.4

Chongqing
2020: 15.9
2035: 20.5

Lagos
2020: 14.4
2035: 24.4

Dhaka
2020: 21.0
2035: 31.2

Shanghai
2020: 27.1
2035: 34.3

São Paulo
2020: 22.0
2035: 24.5

Kolkata
2020: 14.9
2035: 19.6

Kinshasa
2020: 14.3
2035: 26.7

Mumbai
2020: 20.4
2035: 27.3

● 2020   ● 2035

> With more than two thirds of the world population projected to live in urban areas by 2050, the **dynamics** of the largest of urban centers – **megacities[1]** – are important

> Large urban agglomerations, historically to be found in more developed regions, are **now mostly concentrated in developing regions in the Global South**, in only 20 countries, and there particularly in Asia

> By **2030**, the world is projected to have **43 megacities.** Today, **33 megacities** are **home to about 1/8** (just over 500 million) **of the world's urban dwellers** – but it is important to remember that nearly half of the world´s urban population resides in much smaller settlements with less than half a million inhabitants

> Megacities are notable for their sprawl and **concentration of economic activity**

> As the world continues to urbanize, **sustainable development** depends on the **successful management of urban growth**

> Universal **development challenges** are most **acutely felt by megacities**; these include resource adequacy for areas such as water and energy supply, pollution and waste management, infrastructure and mobility, as well as security and crime prevention

1) Cities with more than 10 million inhabitants
Sources: UN Population Division; Roland Berger

Roland Berger
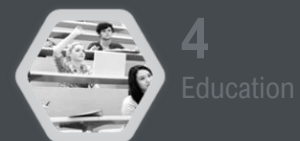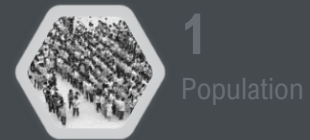
Migration reflects the dynamics of people and society in the context of a multi-layered factor mix – Macro and meso drivers offer points of mediation

Drivers of migration

Political
> Conflict/insecurity
> Discrimination/persecution
> Governance/freedom
> Policy incentives

Social
> Education
> Family/kin obligations

Environmental
> Disasters/exposure to hazard
> Food/water/energy (in)security
> Land productivity
> Habitability

Demographic
> Population size/ density/structure
> Prevalence of diseases

Economic
> Employment opportunities
> Income/wages/wellbeing
> Producer prices (agriculture), consumer prices

Obstacles/facilitators
> Social networks/ diasporic links
> Political/legal framework
> Recruitment agencies
> Cost of moving
> Technology

Individual characteristics
> Age, sex, religion, ethnicity, marital status, language, education, wealth
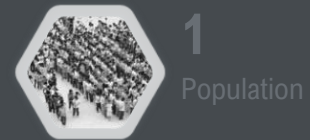
Macro

Meso

Micro

Stay
or
Migrate

?

Migration is not a one-way street

> Influential stake-holders such as governments, NGOs, industry, etc. can intervene and mediate numerous factors at the macro and meso level of migration decision processes

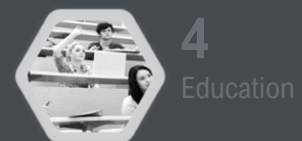> Strong communities and robust societal networks are highly relevant at the micro level

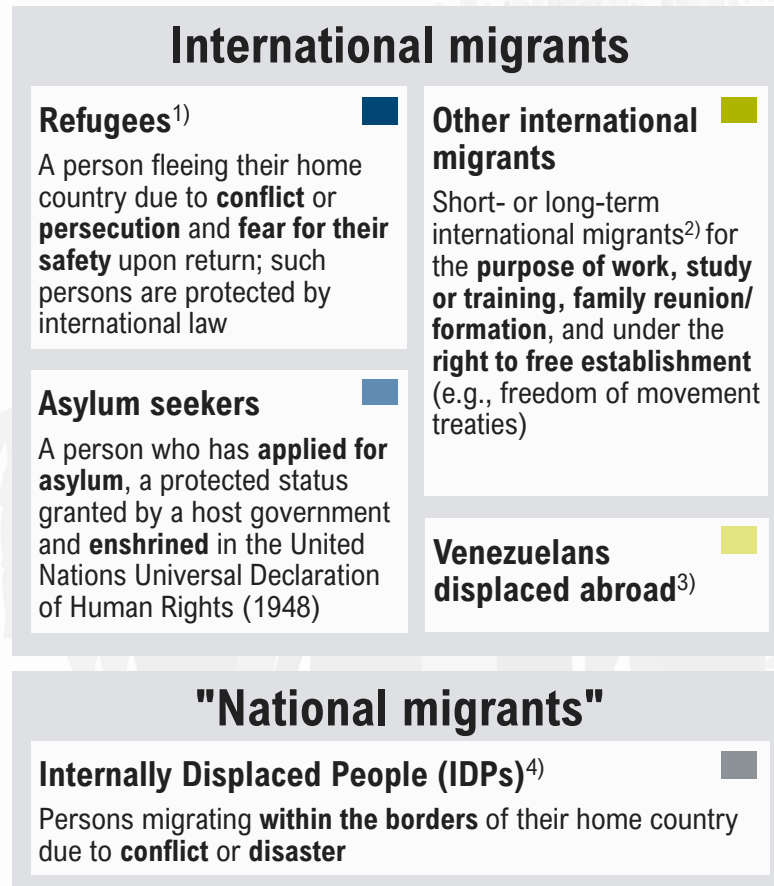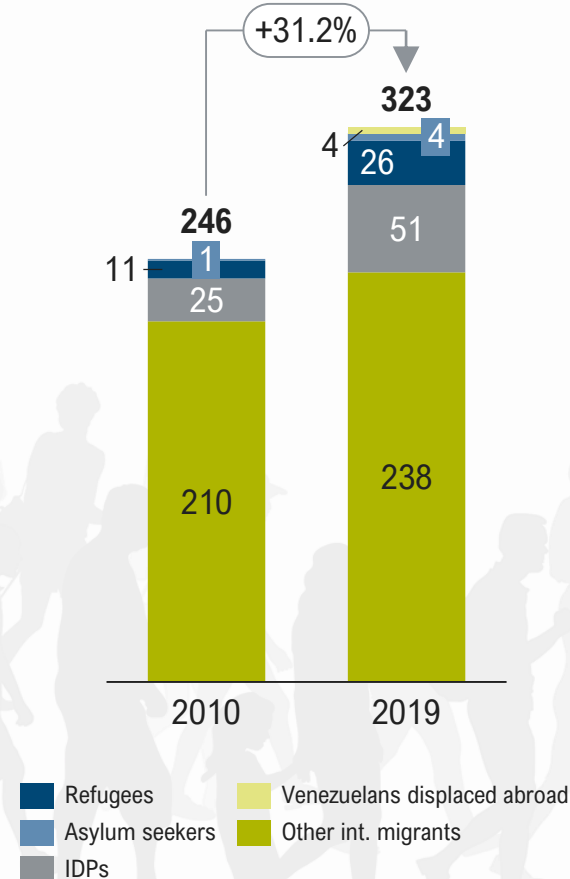Roland Berger

1 Population

2 Migration

3 Values

4 Education

Migration is a complex topic – Not every migrant has crossed a border, not every immigrant is a refugee

Types of migrants and migrant status

International migrants

Refugees[1]

A person fleeing their home country due to **conflict** or **persecution** and **fear for their safety** upon return; such persons are protected by international law

Asylum seekers

A person who has **applied for asylum**, a protected status granted by a host government and **enshrined** in the United Nations Universal Declaration of Human Rights (1948)

Other international migrants

Short- or long-term international migrants[2] for the **purpose of work, study or training, family reunion/ formation**, and under the **right to free establishment** (e.g., freedom of movement treaties)

Venezuelans displaced abroad[3]

"National migrants"

Internally Displaced People (IDPs)[4]

Persons migrating **within the borders** of their home country due to **conflict** or **disaster**

Migrant stock by status [m]

+31.2%

246
11 — 1
25
210

323
4 — 4
26
51
238

2010   2019

- Refugees
- Asylum seekers
- IDPs
- Venezuelans displaced abroad
- Other int. migrants

> **Migrant** – An umbrella term, not defined under international law, reflecting the common under-standing of a person who moves away from his or her place of usual residence, whether **within a country or across an international border**, **tempo-rarily or permanently**, and for a **variety of reasons**

> People who move from one country to another are **international migrants**: they "are defined as either **living** in a country **other than** their **country of birth** or in a country other than their **country of citizenship**"; although this broadly covers both **economic migrants** (with and without work autho-rization) and includes other international migrants such as **educational migrants**, it also applies to **refugees**, but then refers to different legal rights and viewpoints

> Food for thought: **In some situations, people who have never undertaken migration may be referred to as migrants** – such as children born to settled, migrant parents and to whom local citizenship is not automatically conferred at birth

> People who are **moving within their own country due to** reasons of **conflict** or **disaster**, are also migrants – they are **Internally Displaced People (IDPs)**

> These **distinctions are important** because different migrants are entitled to **different rights** and **levels of protections** from host governments and international organizations; equally, some **distinctions can be blurry**, for example, many people fleeing conflict are often also looking to escape poverty

1) Defined by UN Convention and Protocol; includes UNRWA Refugees (persons whose normal place of residence was Palestine during the period 1 June 1946 to 15 May 1948, and who lost both home and means of livelihood as a result of the 1948 conflict); 2) From 3 months; excl. purposes of tourism/recreation/pilgrimage etc.; 3) Persons of Venezuelan origin who are likely to require international protection under the criteria contained in the Cartagena Declaration, but who have not applied for asylum in the country in which they are present; 4) IDPs data according to IDMC/NRC
Sources: UN/UNHCR/UNRWA; IDMC/NRC (Internal Displacement Monitoring Centre/Norwegian Refugee Council); Roland Berger

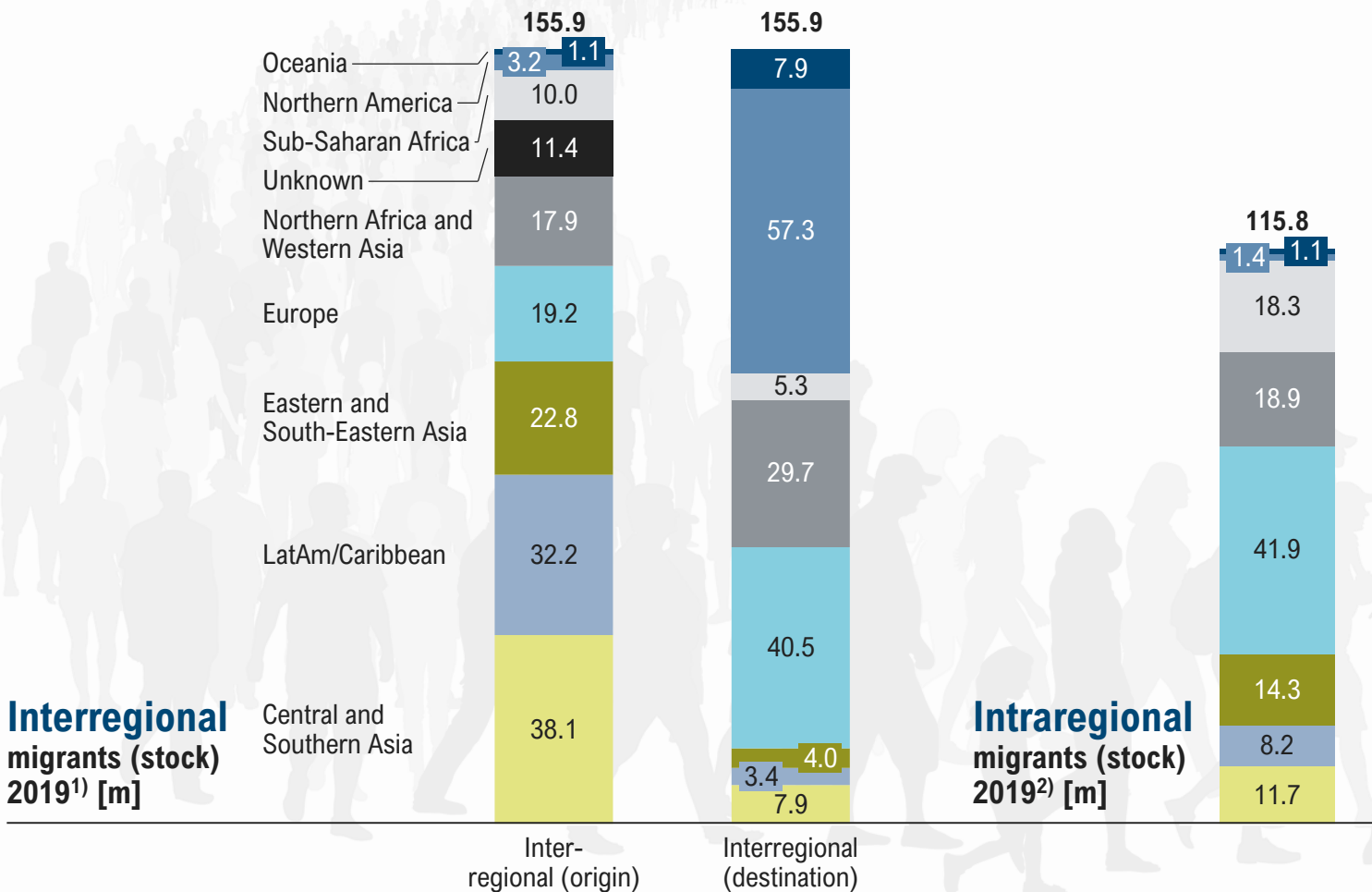Roland Berger

1 Population

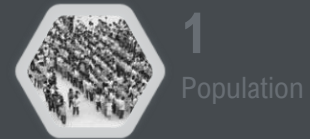**2 Migration**

3 Values

4 Education

Northern America and Europe host the majority of interregional migrants – Within their region, Europeans migrate the most

International migrants: Migration between regions and within a region

155.9 | **155.9**

Oceania	3.2 — 1.1	7.9
Northern America	10.0	
Sub-Saharan Africa	11.4	57.3
Unknown		
Northern Africa and Western Asia	17.9	
Europe	19.2	5.3
Eastern and South-Eastern Asia	22.8	29.7
LatAm/Caribbean	32.2	40.5
Central and Southern Asia	38.1	3.4 — 4.0 / 7.9

115.8

1.4 — 1.1
18.3
18.9
41.9
14.3
8.2
11.7

Interregional migrants (stock) 2019[1)] [m]

Inter-regional (origin) | Interregional (destination)

Intraregional migrants (stock) 2019[2)] [m]

> Of the **total of 271.7 million cross-boarder migrants** (refugees, asylum seekers and other international migrants), **57% (155.9 million) have left their home region**. Most of them stem from different Asian regions, Latin America/Caribbean and Africa

> With **19.2 million** interregional migrants, a significant number of **Europeans has crossed regions**, while only **3.2 million** people from **Northern America** have left their region

> **43% of cross-boarder migrants** (115.8 million) have left their home country but **stay within their home region**

> **41.9 million (36%)** of these **intraregional migrants** move **within Europe**. A substantial part of this is due to citizens of the European Union exercising their free movement rights (i.e., legal transnational migration)

1) Interregional migration includes only migration between regions; data are based on UN medium variant forecast;
2) Intraregional migration includes only migration between countries within a region; 3) IDPs: internally displaced people
Sources: UN Population Division; IOM; Internal Displacement Monitoring Centre/Norwegian Refugee Council; Roland Berger
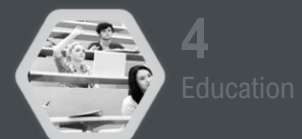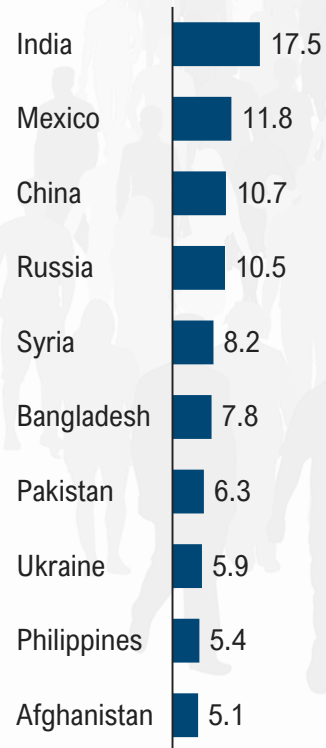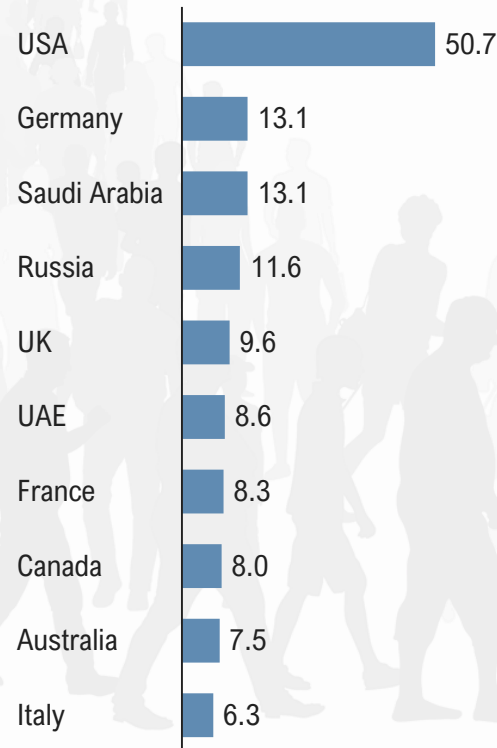
Roland Berger

By origin, migrants from India lead in absolute numbers, the US remains overall top destination – Middle East countries host most in relative terms

Top origins and destinations of international migrants and countries with the highest share of international migrants in 2019, stock [m, %]
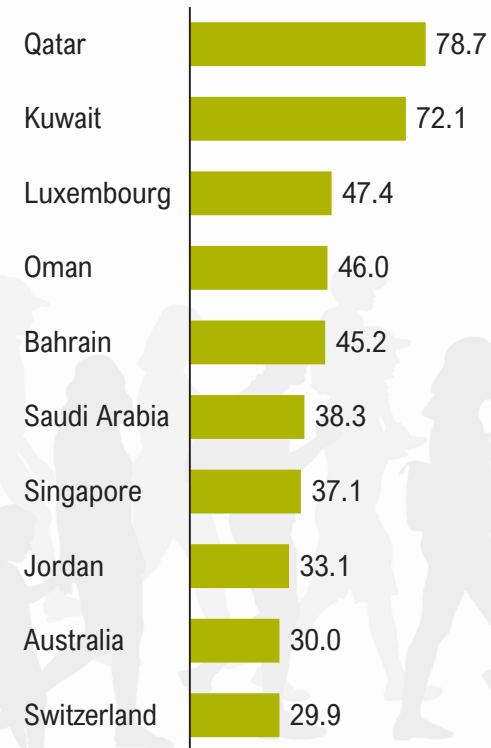
Top origins [m]

Country	Value
India	17.5
Mexico	11.8
China	10.7
Russia	10.5
Syria	8.2
Bangladesh	7.8
Pakistan	6.3
Ukraine	5.9
Philippines	5.4
Afghanistan	5.1

Top destinations [m]

Country	Value
USA	50.7
Germany	13.1
Saudi Arabia	13.1
Russia	11.6
UK	9.6
UAE	8.6
France	8.3
Canada	8.0
Australia	7.5
Italy	6.3

Top 10 countries with highest share of int. migrants[1] [%]

Country	Value
Qatar	78.7
Kuwait	72.1
Luxembourg	47.4
Oman	46.0
Bahrain	45.2
Saudi Arabia	38.3
Singapore	37.1
Jordan	33.1
Australia	30.0
Switzerland	29.9

> In 2019, **one third** of the 272 million international migrants stem from **10 countries of origin;** 10 destination countries host **half of all** international migrants

> While the **United States of America host more than 18% of all international migrants**, many other countries have a much higher share relative to their population size, particularly in **Middle Eastern countries**, where migrants make up a **large share of the labor force**

> **74%** of all international migrants were of **working age** (20-64 years)

> **52%** of international migrants were **male**, 48% female

1) Share of international migrants relative to population size (minimum 100,000 migrants)
Sources: UN Population Division; IOM; Roland Berger

Roland Berger

1 Population

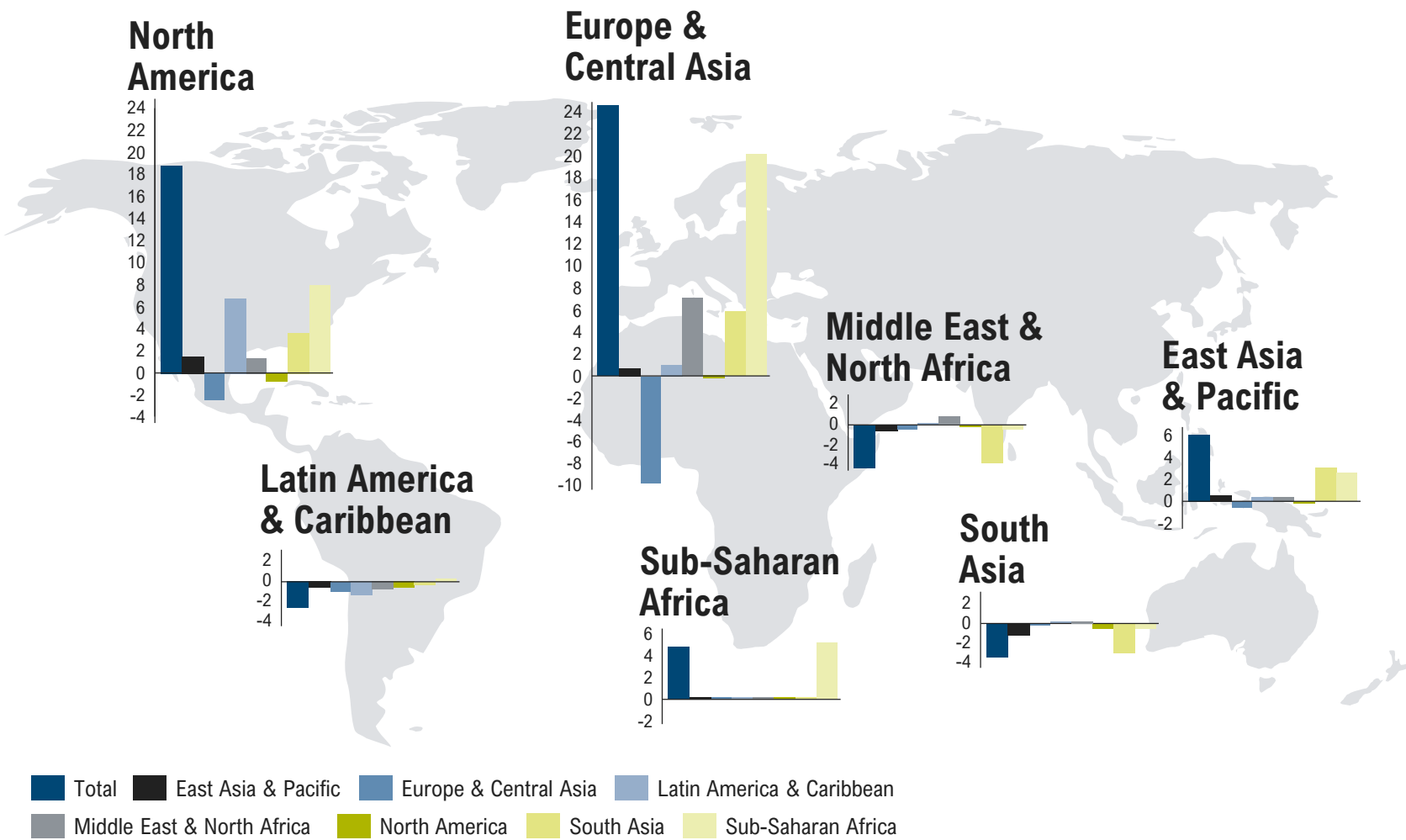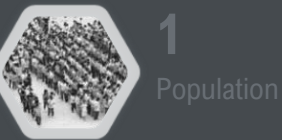**2** Migration

3 Values

4 Education

To 2050, patterns of out-of-region migration pressures towards Europe & Central Asia and North America continue, mainly from Africa & Middle East

Change in migrant pressures between 2020 and 2050, individuals [m]

North America

Europe & Central Asia

Middle East & North Africa

East Asia & Pacific

Latin America & Caribbean

Sub-Saharan Africa

South Asia

Legend:
- Total
- East Asia & Pacific
- Europe & Central Asia
- Latin America & Caribbean
- Middle East & North Africa
- North America
- South Asia
- Sub-Saharan Africa

> In the IMF's baseline scenario, the **migrant share of the global population** is broadly **constant at just over 3%**

> Migration pressures build up **from Africa and the Middle East towards Europe and North America**. This is largely caused by a population boom in Sub-Saharan Africa, where the population is estimated to increase by 1 billion between 2020 and 2050, **generating out-of-region migration pressure of 31 million individuals**

> A growing population in **Latin America and the Caribbean** exerts continuing **pressure on immigration to North America**, although with less observed intensity than in the past
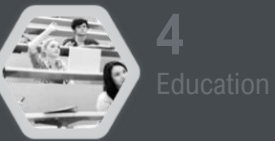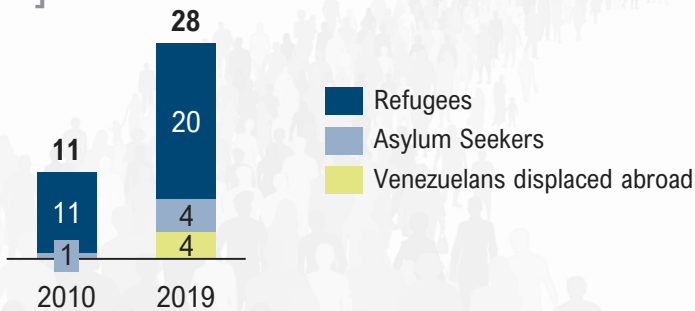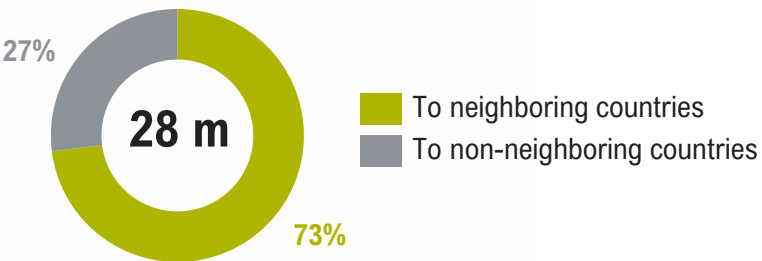
Sources: IMF; IOM; Roland Berger

Roland Berger

Most people forcibly displaced abroad flee to nearby countries – Syria is a top originator of people under forced displacement, Turkey a top host
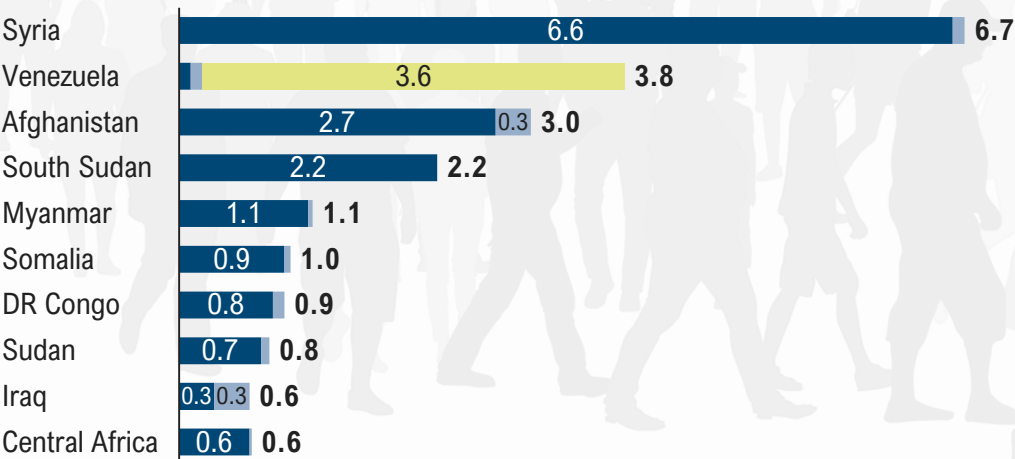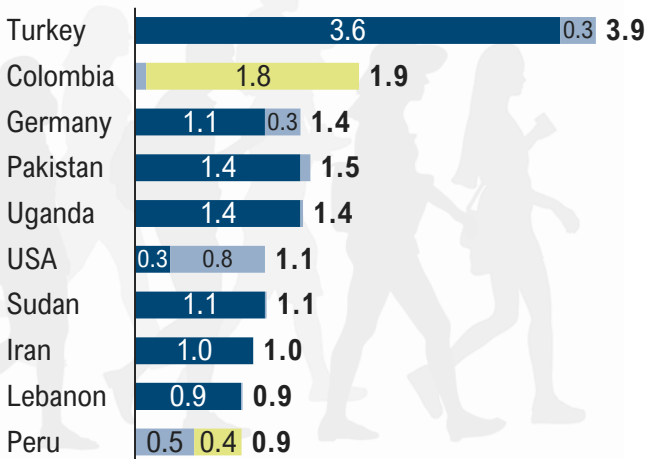
Forcibly displaced people by status, stock [m]

- Refugees
- Asylum Seekers
- Venezuelans displaced abroad

2010: 11 (Refugees 11, Asylum Seekers 1)

2019: 28 (Refugees 20, Asylum Seekers 4, Venezuelans displaced abroad 4)

Forcibly displaced people across borders by general destination, 2019 [%]

28 m

27%

73%

- To neighboring countries
- To non-neighboring countries

Top origin countries of people forcibly displaced, 2019 [m]

Country	Value
Syria	6.6 — 6.7
Venezuela	3.6 — 3.8
Afghanistan	2.7 / 0.3 — 3.0
South Sudan	2.2 — 2.2
Myanmar	1.1 — 1.1
Somalia	0.9 — 1.0
DR Congo	0.8 — 0.9
Sudan	0.7 — 0.8
Iraq	0.3 / 0.3 — 0.6
Central Africa	0.6 — 0.6

Top host countries of people forcibly displaced, 2019 [m]

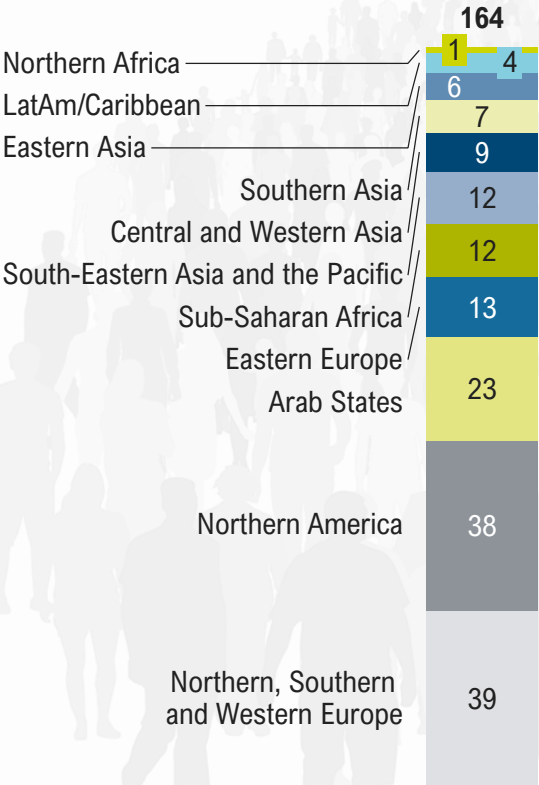| Country	Value
Turkey	3.6 / 0.3 — 3.9
Colombia	1.8 — 1.9
Germany	1.1 / 0.3 — 1.4
Pakistan	1.4 — 1.5
Uganda	1.4 — 1.4
USA	0.3 / 0.8 — 1.1
Sudan	1.1 — 1.1
Iran	1.0 — 1.0
Lebanon	0.9 — 0.9
Peru	0.5 / 0.4 — 0.9

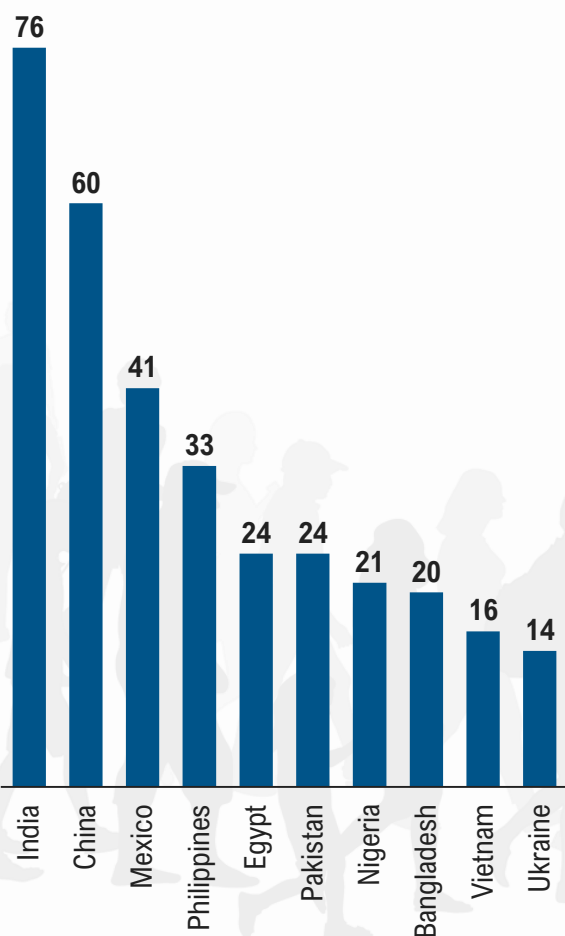Sources: UNHCR; UN; Roland Berger

Roland Berger

International labor migrants constitute the bulk of other international migrants – Remittances highlight important aspects of a two-way flow

International labor migrants 2017, stock [m]

164

- Northern Africa — 1
- 4
- LatAm/Caribbean — 6
- Eastern Asia — 7
- 9
- Southern Asia — 12
- Central and Western Asia — 12
- South-Eastern Asia and the Pacific — 13
- Sub-Saharan Africa
- Eastern Europe
- Arab States — 23
- Northern America — 38
- Northern, Southern and Western Europe — 39

Top 10 remittance recipient countries 2020 [USD bn][1]

Country	Value
India	76
China	60
Mexico	41
Philippines	33
Egypt	24
Pakistan	24
Nigeria	21
Bangladesh	20
Vietnam	16
Ukraine	14

> Of all other international migrants, according to latest ILO estimates, **164 million people are migrant workers** – up from 150 million in 2013; of all labor migrants abroad, around **58.4% are male**

> Nearly **68% of labor migrants are employed in high income countries**, predominantly in three regions: North America (23%), parts of Europe (23.9%) and the Arab States (13.9%)

> Across almost all regions **the labor force partici-pation rate of migrants is higher** than that of non-migrants; in two regions the difference is negligible. Migration raises world GDP by raising productivity

> **Two-way flow:** International labor migrants seek paid work; often, a share of their **earnings is remitted** to low- and middle-income countries (LMIC) **for familial support** and thus lifting income per capita in the origin countries while helping to **offset some of the negative emigration effects**; although these transfers are **private funds, remittances** also shine a light on their **developmental** aspect – exceeding official development aid (ODA) four-fold

> According to World Bank/IMF estimates, top remit-tance receiving countries are India, China and Mexico; in **2019**, remittances to LMICs reached their highest level – **USD 548 million**. Due to pandemic effects, weak economic growth and uncertainties around jobs in several high-income migrant-hosting countries, **global remittances** to LMICs are **expected to decline to around USD 470 billion in 2021**

1) Estimated flows to LMICs only, based on IMF data; excludes informal money transfers
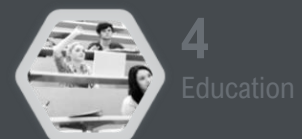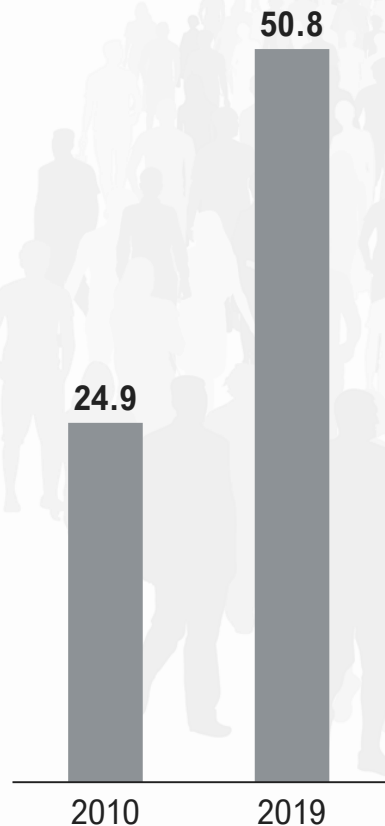Sources: ILO based on UN/DESA; World Bank based on IMF; Ratha et al.; Roland Berger

Roland Berger
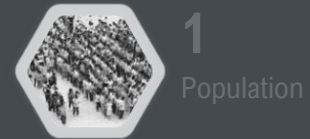
Displaced in their own country due to conflict, violence or disaster: In 2019, the number of IDPs reached a new high of over 50 million
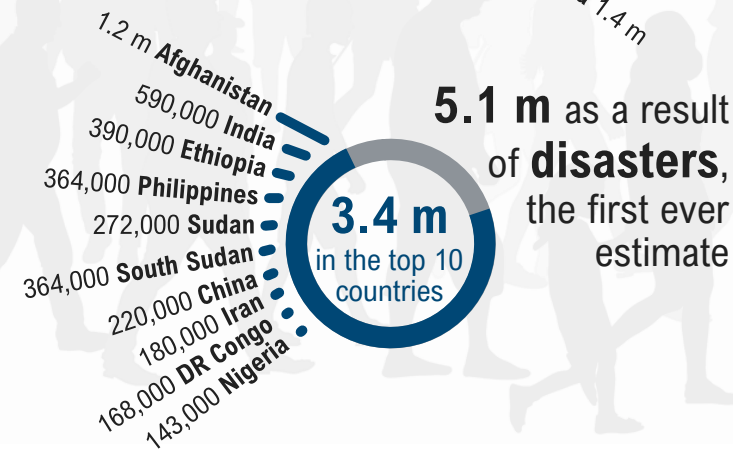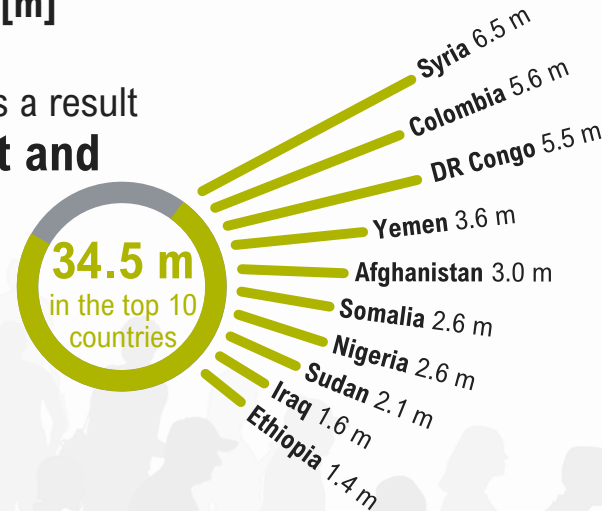
Internally displaced people, major facts

Global number of IDPs 2010 and 2019 [m]

50.8 (2019)

24.9 (2010)

Global number of IDPs by reasons and major countries 2019 [m]

45.7 m as a result of **conflict and violence**, an all time high

34.5 m in the top 10 countries

- Syria 6.5 m
- Colombia 5.6 m
- DR Congo 5.5 m
- Yemen 3.6 m
- Afghanistan 3.0 m
- Somalia 2.6 m
- Nigeria 2.6 m
- Sudan 2.1 m
- Iraq 1.6 m
- Ethiopia 1.4 m

5.1 m as a result of **disasters**, the first ever estimate

3.4 m in the top 10 countries

- 1.2 m Afghanistan
- 590,000 India
- 390,000 Ethiopia
- 364,000 Philippines
- 272,000 Sudan
- 364,000 South Sudan
- 220,000 China
- 180,000 Iran
- 168,000 DR Congo
- 143,000 Nigeria

> **Internally displaced people** (IDPs) make up the overwhelming majority of people to have fled conflict, violence or disasters worldwide – without crossing a border

> A record **45.7 million people** were living under circumstances of internal forced displacement as a **result of conflict and violence** in 61 countries and territories at the end of 2019 – the highest figure ever recorded

> Additionally, **at least 5.1 million people** – a first ever estimate – **were internally displaced by disasters,** such as floods, earthquakes and wildfires, across 95 countries and territories by the end of 2019

> IDPs have **no established legal process for seeking international protection** but may have endured persecution and human rights abuses similar to refugees, the latter receiving over five times more international aid than IDPs

> **Protracted displacement**: The assumption that IDPs can return to their homes at some point underestimates the complex vulnerabilities of IDPs – **90% of IDPs are displaced for more than 10 years**

Sources: IDMC/NRC; European Commission; RLI; Roland Berger

Roland Berger
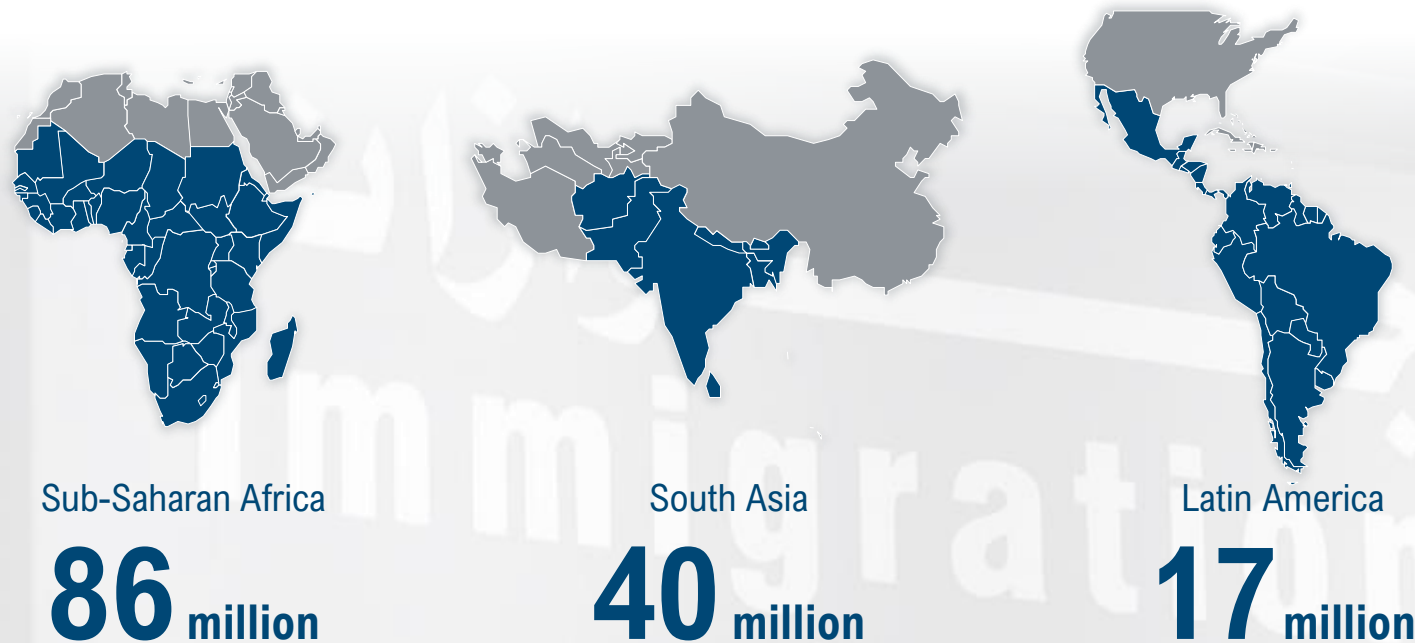
Environmental displacement: By 2050, parts of Africa, Asia and Latin America could see up to 143 millions internal climate migrants

Internal climate migrants in selected regions 2050 according to the World Bank's pessimistic scenario

Sub-Saharan Africa

86 million

South Asia

40 million

Latin America

17 million

> **Global climate and environmental migration** forecasts to **2050** range widely, from 25 million to 1 billion people
> The **majority of climate migrants** will become **internally displaced** i.e., they will be forced to move **within** their own country due to increasing climate change impacts such as rising sea levels, crop failure, water stress etc.
> In a **pessimistic scenario** (high green-house gas emissions combined with unequal development pathways), the World Bank expects **143 million internal climate migrants** in Sub-Saharan Africa, South Asia, and Latin America
> According to World Bank estimates, the **global community** could manage **to lower the number of people forced to move due to climate change by 80%** if we manage to cut greenhouse gases, embed climate migration in development planning, and invest to improve understanding of internal climate migration in the first place
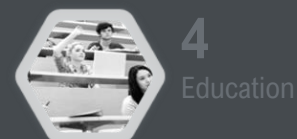
"
Climate migration is the human face of climate change.
World Bank

Sources: World Bank; Roland Berger

Roland Berger

Values are fundamental to people and society – Understanding their complexity provides the basis of unity in diversity

Selected aspects of individuality and diversity

Work experience

Religion/ Faith

Political belief

Gender

Race/ Ethnicity

Age

Appearance

Mental/ Physical ability

Gender identity/ expression

Family status

Language

Nation of origin

Communication skills

Education/ Training

Occupation

Sexual orientation

Organizational role

Wealth/Income

"Our ability to reach unity in diversity will be the beauty and the test of our civilization."
Mahatma Gandhi

> Diversity encompasses many dimensions: Some **aspects of diversity** are easily **visible**, and/or are often **permanent**. Others may be more **acquired** or **fluid** over time, or are typically less discernable, even hidden, such as education, religious or political beliefs, etc.

> Combinations of these dimensions shape our values, behaviors, experiences and expectations, yet any number of such characteristics also pose a **risk of exclusion**, **preferential treatment** or **discrimination**

> Due to enshrined **human rights** and advancement of equal rights, but also globalization, freedom of movement and migration, the world is becoming **more diverse** as well as more **diversity-aware,** the latter laying the foundation for **inclusion** and **equity**

> However, the concepts of diversity and inclusion are complex and often **mean very different things in different countries or settings**; this, however, does not negate the necessity to call out issues of **bias**, **underrepresentation** or **exclusion** – in society and communities, in the workplace, in education, etc.

> Where **differences are leveraged to create value**, the sum will always be greater than its parts: Diversity matters because it ensures the representation of multiple viewpoints and backgrounds; inclusion matters because it creates a (mutual) culture of respectful acceptance and fair engagement

> Diversity and inclusion require **context** as much as the ability and willingness to be open to **change**

Sources: Johns Hopkins University; Roland Berger

Roland Berger

1 Population

2 Migration

3 Values

4 Education

According to the UN, everyone is entitled to all human rights and freedoms – In reality, achieving these entitlements is mixed and fraught with setbacks

Human rights: Selection of significant developments

Universal Declaration of Human Rights 1948: Article 2

"

Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status (…)

"

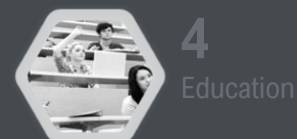|		
140 (now 196) countries ratify UN Convention on the Rights of the Child	**1990** **2020s**	1 in 10 children are subjected to child labor worldwide – COVID-19 disrupts an otherwise encouraging downward trend
Aung San Suu Kyi, Myanmar human rights activist and political figure head, is awarded the Nobel Peace Prize	**1991** **2017**	More than 740,000 Rohingya Muslim refugees flee to Bangladesh after violent persecution in Myanmar – condoned by Aung San Suu Kyi
Australia allows nonbinary and intersex people to obtain passports with the nonbinary gender marker X	**2000** **2020**	Around the world, at least 15 countries criminalize being transgender
Barack Obama becomes the first black president of the United States	**2008** **2020**	"I can't breathe": George Floyd is brutally killed by police, sparking violent protests and social unrest
King Salman reforms male guardian-ship: Saudi women are allowed to drive and to hold passports	**2017 -2018** **2020**	Saudi male guardianship still applies vis-a-vis permission to marry, work, study, prison release, or to seek medical care
Greta Thunberg's Fridays for Future: First global climate strike takes place	**2018** **2019**	Trump's administration begins process to withdraw the US from the 2015 Paris climate agreement (reversed in 2021 by the Biden administration)

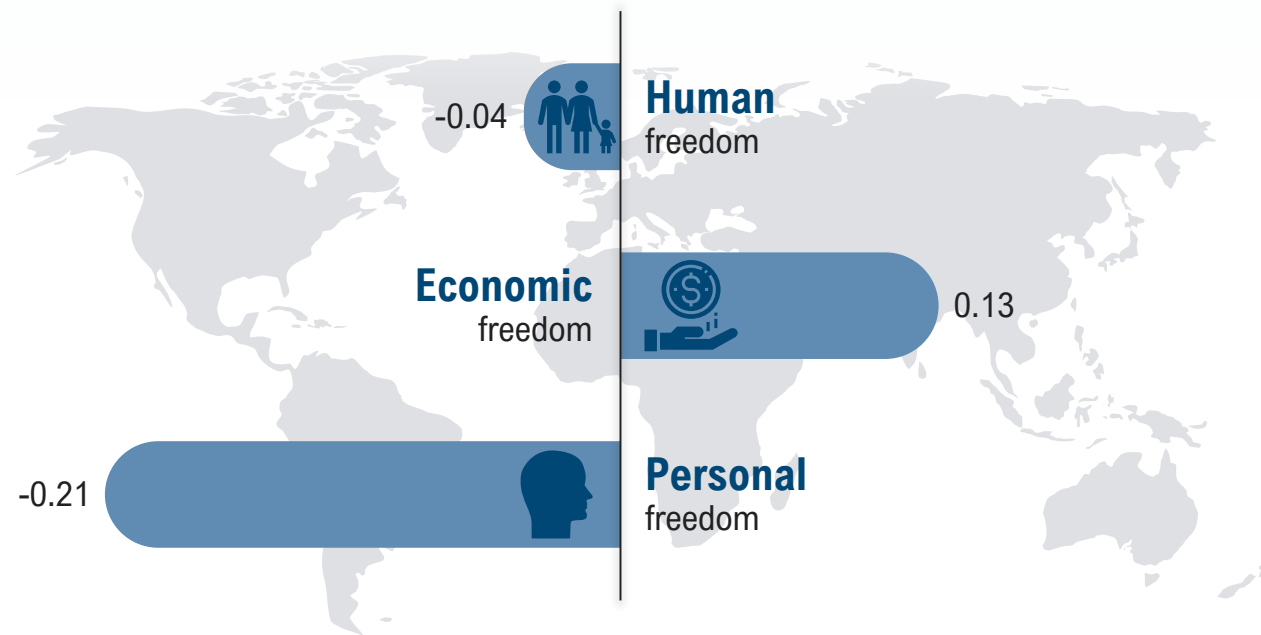Sources: Roland Berger; UNHCR; ILGA; Human Dignity Trust; Roland Berger

Roland Berger

The evolution of human freedoms paints a mixed picture – How will global values be shaped in the future?

Change in human freedom score, 2008-2018

-0.04 **Human** freedom

Economic freedom 0.13

-0.21 **Personal** freedom

Less free – the trajectory of global human freedom: Since 2008, the level of **global freedom has decreased** slightly in this index of 76 distinct indicators[1]. Notably, **personal freedom indicators declined vis-à-vis a significant increase in economic freedom;** of all constituent measures of personal freedom, **religious freedom declined (-0.63)** the strongest, and in all regions in the period analyzed

What to look out for toward 2050

Through to 2050, the **global consensus on values** based on human rights and personal, civil and economic freedoms will **shift alongside the global power shift**. Changes in values and beliefs, in geo-political power, socio-economic evolution, and new technology denote what lies ahead. Selected push-and-pull factors include:

> If **rising powers approach protecting human rights** (also beyond their borders) and adjust their own self-determination policies – or not

> Whether **emerging middle classes grow** and whether societies push for more rights (even if not full democracy) as historically has been the case – or not

> How **bottom-up technologies that enhance freedom evolve** vis-a-vis repressive, top-down surveillance and information control

> If the **Internet remains an unfettered information conduit** – or not

2050

1) The Human Freedom Index is an averaged composite of 34 personal freedom and 42 economic freedom indicators; based on the comparison of 141 countries

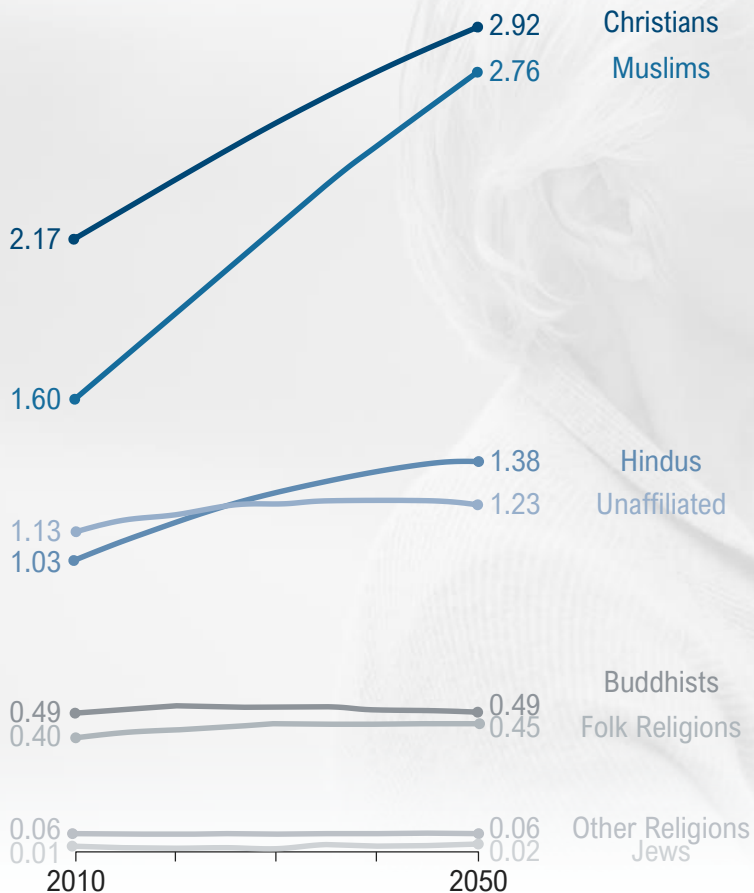Sources: Cato Institute; Fraser Institute; World Future Society; Roland Berger
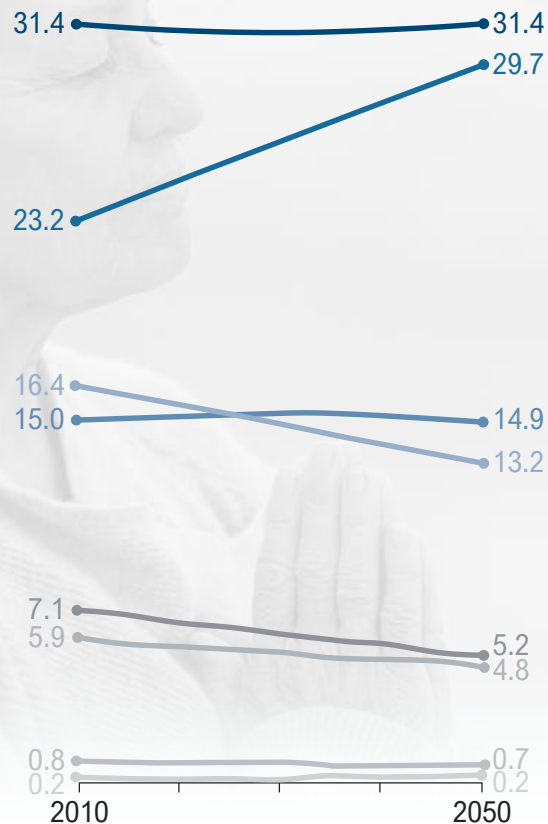
Roland Berger

Religion is a fundamental personal freedom – All major religious groups are increasing. By 2050, Christians and Muslims will have a near equal share

Religious affiliation – Total growth and share of total global population, 2010-2050

Number of people, 2010-2050 [bn]

- Christians: 2.17 → 2.92
- Muslims: 1.60 → 2.76
- Hindus: 1.13 → 1.38
- Unaffiliated: 1.03 → 1.23
- Buddhists: 0.49 → 0.49
- Folk Religions: 0.40 → 0.45
- Other Religions: 0.06 → 0.06
- Jews: 0.01 → 0.02

2010 ... 2050

Share of global population, 2010-2050 [%]

- Christians: 31.4 → 31.4
- Muslims: 23.2 → 29.7
- Unaffiliated: 16.4 → 14.9
- Hindus: 15.0 → 13.2
- Buddhists: 7.1 → 5.2
- Folk Religions: 5.9 → 4.8
- Other Religions: 0.8 → 0.7
- Jews: 0.2 → 0.2

2010 ... 2050

> **Population dynamics** affect the **future growth of religions**

> Although all major religious groups (apart from Buddhists) will see an increase in absolute numbers to 2050, as a share of the global population, Christians will stagnate, while **Muslims will outpace all other religions** – increasing at a rate faster than the global population

> **Christians and Muslims** are expected to draw **level by 2070**, sharing just under a third of the global population each

> Religions and religious beliefs are not set in stone – the **unaffiliated**, for example, will see a net positive change of over 61 million but will decline as a share of the global population, down from 16.4% to 13.2%

> While **beliefs** are shaped by conviction and in turn affect **values**, morals, and day-to-day life, strength of faith or active worship is difficult to assess

> **Faith traditions create obstacles,** especially where religious freedom and tolerance is not a given: In some – mostly Muslim – countries, **religious switching** and **apostasy** is **punishable by death**; around 1/4 of all countries have **anti-blasphemy laws** in place, mostly in North Africa, the Middle East and some parts of Asia, and violent, large-scale **persecution**, for example by means of ethnic and/or **religious cleansing**, is still making horrific headlines in the here and now

Sources: Pew Research Center; Roland Berger

Roland Berger

1 Population

2 Migration

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UN Sustainable Development Goals 2030 are broadening the global consensus on values – A challenging blueprint for a better future for all

UN Sustainable Development Goals (SDGs) 2030

> The Sustainable Development Goals (SDGs) are a collection of **17 interlinked global goals** designed to be a "**blueprint to achieve a better and more sustainable future for all**" intended to be achieved by 2030

> **Launched in 2015** by the United Nations General Assembly and subsequently ratified by all member nations, the SDGs represent a new **set of universal goals applicable to all countries**, very much in contrast to the earlier Millennium Development Goals (MDGs) which were broadly intended for action in developing countries only

> The 17 SDGs are defined in a list of 169 SDG targets; **progress is tracked** by 232 unique indicators visualized on a **tracker dashboard** – but global monitoring for some indicators is not currently possible

> The breadth of the 17 goals and their 169 defined targets mean **all countries face significant challenges** in delivering these commitments

> To accelerate sustainable solutions to all the worlds biggest challenges, **2020-2030 has been designated the Decade of Action** – albeit the current COVID-19 crisis is dampening progress and potentially reverting gains already achieved
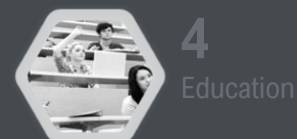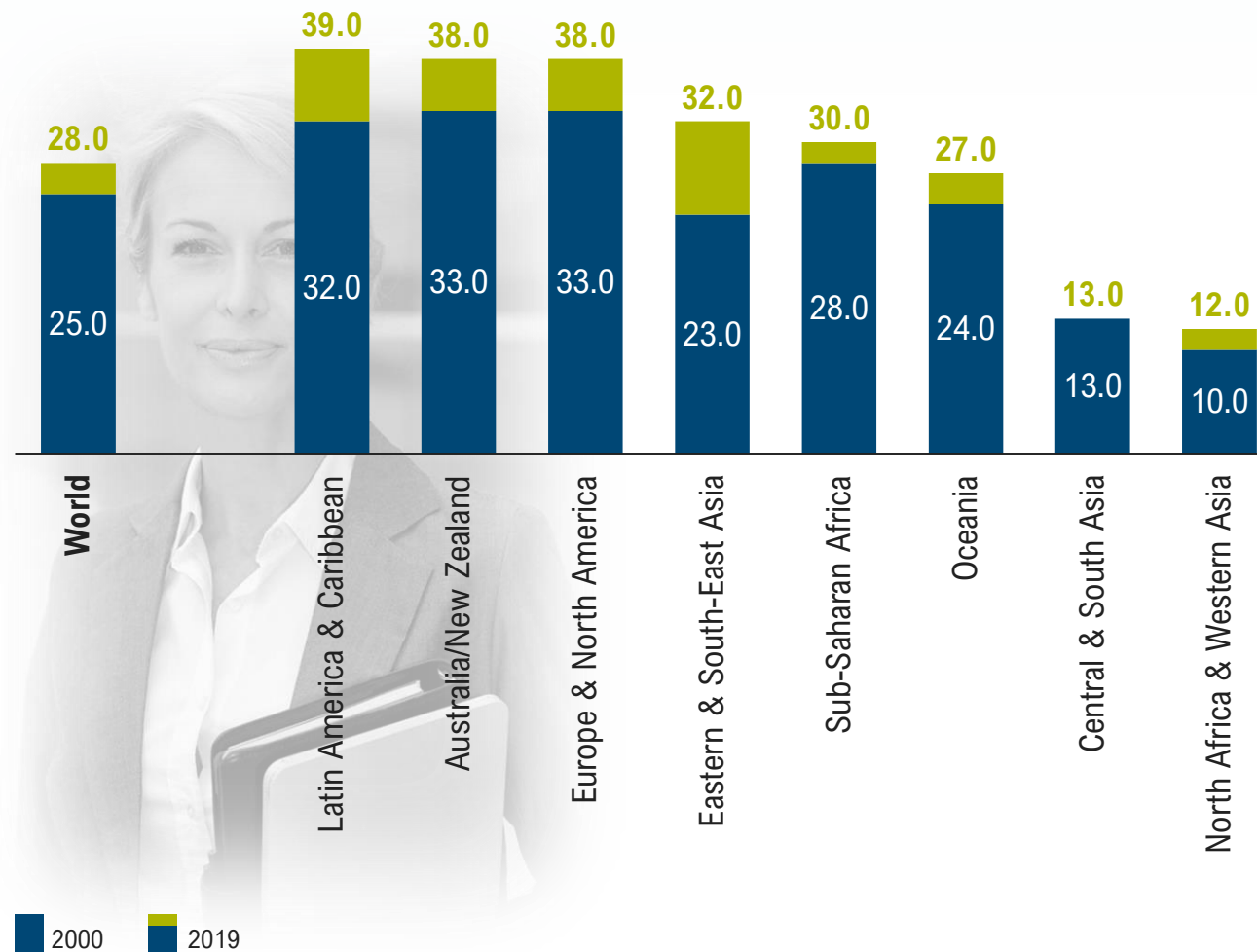
Sources: UN; Roland Berger

Roland Berger

Gender inequality is a global concern: In the workplace, in every region, the gender gap remains significant – progress is slow at all levels

Proportion of women in managerial positions[1] by region, 2000 and 2019 [%]

Region	2000	2019 total
World	25.0	28.0
Latin America & Caribbean	32.0	39.0
Australia/New Zealand	33.0	38.0
Europe & North America	33.0	38.0
Eastern & South-East Asia	23.0	32.0
Sub-Saharan Africa	28.0	30.0
Oceania	24.0	27.0
Central & South Asia	13.0	13.0
North Africa & Western Asia	10.0	12.0

■ 2000   ■ 2019

> **Globally, women held only 28% of managerial positions** in 2019 across public and private sectors – up from 25% in 2000, and with a markedly lower share in Northern Africa and many parts of Asia; across all regions, the **rate of improvement is slight**

> **Underrepresentation of women** in executive positions is even more visible at **the top level:** Projections from the global MSCI index constituents' show that **gender parity on corporate boards** may not appear, at best, until 2039, at worst until 2069, and under **normal progress** not until **2045**

> According to the International Labor Organization (ILO), the bigger the enterprise, the lower the chances of it having a **woman CEO: 16% of large enterprises** (>250 workers) **have women CEOs** compared to **26% of small enterprises;** for example, among US Fortune 500 corporations, 37 CEO positions are held by women – less than 8%

> Having **women in leadership positions helps:** In 2018, a global ILO survey reaffirmed that company **profits increase** as a result of **gender equality and diversity initiatives**

1) Managerial positions include executives, senior officials, legislators, administrative and commercial managers, production and specialized services managers
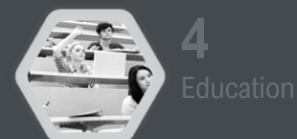Sources: UN; MSCI ESG; ILO; Roland Berger

Roland Berger
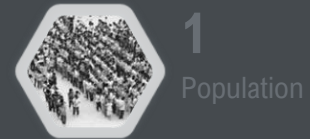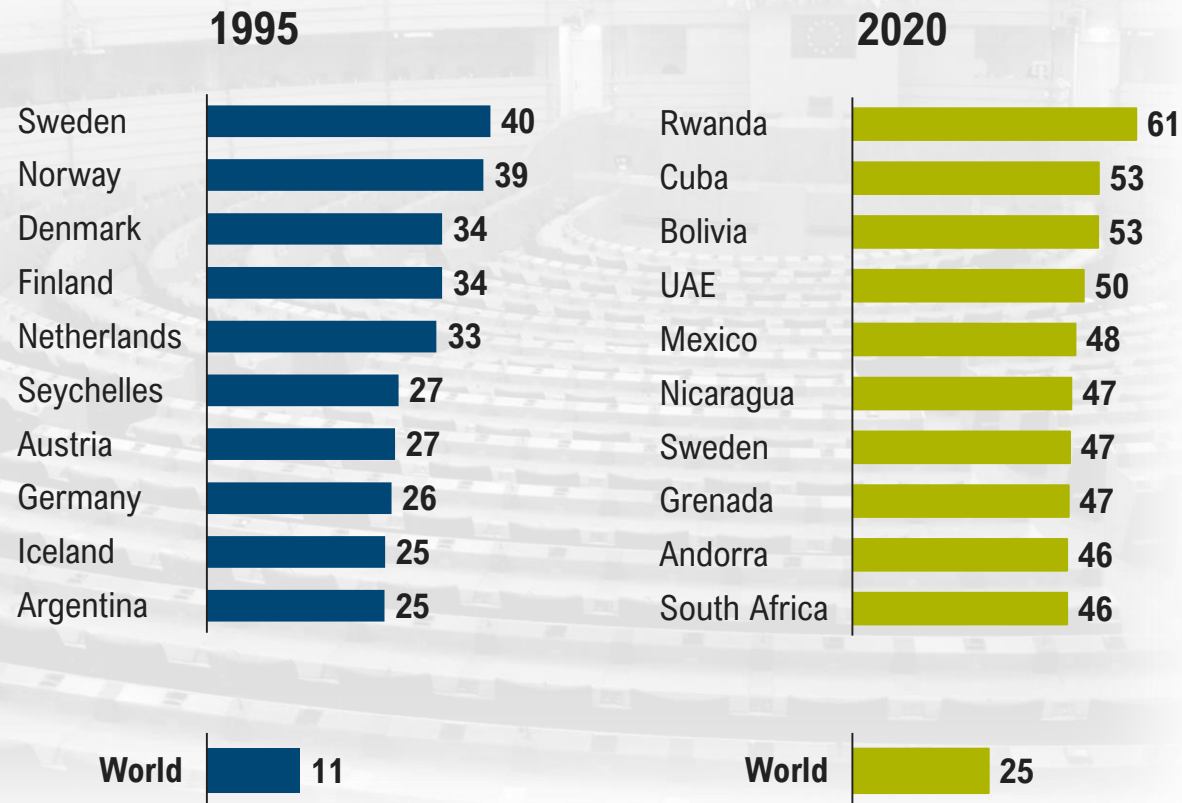
Achieving gender equality or parity in political life is also far off – Developing countries now show a higher participation dynamic

Women in national parliaments, top 10 countries and world average [share in %]

1995

Country	Share
Sweden	40
Norway	39
Denmark	34
Finland	34
Netherlands	33
Seychelles	27
Austria	27
Germany	26
Iceland	25
Argentina	25
World	**11**

2020

Country	Share
Rwanda	61
Cuba	53
Bolivia	53
UAE	50
Mexico	48
Nicaragua	47
Sweden	47
Grenada	47
Andorra	46
South Africa	46
World	**25**

> **Equal participation** and leadership by women in political and public life is essential – however, data shows that **women are underrepresented** at all levels of such decision-making **worldwide**, and achieving **gender parity in political life** appears far off for most countries

> As of 2020 and across 133 countries, women held **36% of elected seats in local deliberative bodies** but only **25% in national parliaments** – in **only four** of the latter, women hold at least **50%** of the seats

> Over the past 25 years, **six developing countries have overtaken Sweden** (a historical leader in equal parliamentary participation) in the top 10 countries for women's participation in parliament, while European countries overall have fallen back

> **Political leaders**: Women serve as **heads of state or government in only 21 countries** and 119 countries have never had a woman leader

> Of the 20 countries with the highest percentages of women in parliament, 16 apply some form of **gender quota;** 81 countries now hold elections that include legislated gender quotas

> Quotas are no longer designed to reach a **minimum threshold** of women candidates or members of parliament, but as a strategy to reach **gender parity**

> Ironically, 73% of parliamentary **gender equality** committees are chaired by women
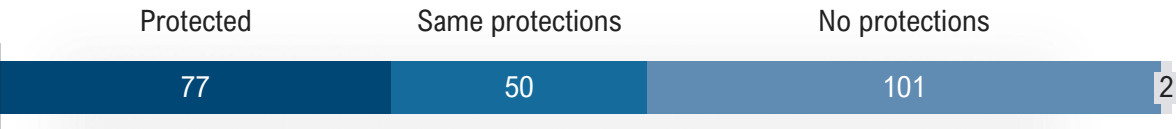
Sources: UN DESA; IPU; Roland Berger

Roland Berger

SDGs apply to everyone, everywhere promising to 'leave no one behind' – An important recognition for gender diversity and gender identity

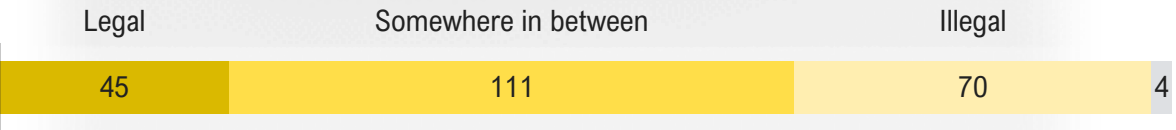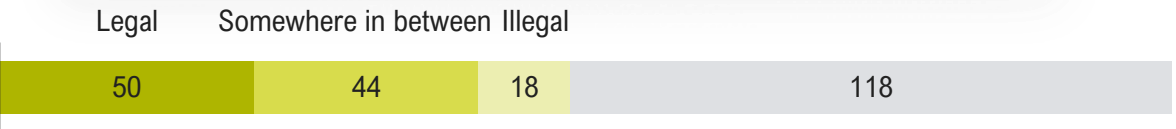Status of LGBTQI+ laws 2020, number of countries, selected aspects

LGBT discrimination

Protected	Same protections	No protections	
77	50	101	2

Homosexual activity

Legal	Illegal	
150	71	9

Same-sex marriage & marriage recognition

Legal	Somewhere in between	Illegal	
45	111	70	4

Right to change legal gender

Legal	Somewhere in between	Illegal	
50	44	18	118

N/A, ambiguous

> The United Nations SDGs aim to end poverty as much as **gender inequality by 2030** on the basis that these goals **apply to everyone, everywhere and will 'leave no one behind'**

> This last principle is important not just for (often discussed binary) **gender equality** goals but for **gender diversity** and its expression in the broad spectrum of **gender identities as well as sexual orientation,** now most often referred to as **LGBTQI+** (Lesbian, Gay, Bisexual, Transgender, Queer, Intersex +)[1], an inclusive but non-exhaustive umbrella term

> Nationally and internationally, united **activism** around a common mission remains the most important source of influencing **norm change**, most clearly seen where change has occurred in the **legal sphere** for gender and sexual minority (**GSM**) communities

> According to Equaldex, a global observatory of LGBTQI+ legal rights changes, this is a very wide, **unequal field** – ranging from over **70 countries where**, for example, **homosexual activity is illegal,** to only **5 nations** (Bolivia, Ecuador, Fiji, Malta, UK) where **national constitutions** explicitly **guarantee equality** for citizens **based on sexual orientation** as well as **gender identity**

> But laws alone cannot bring about change in attitudes; **norm change** must come with agreement from the general public – often **in conjunction with religious acceptance**

> Focused campaigns for recognition of **varied gender identities** and, for example, **legalization of same-sex marriage** have been successful in several countries – usually the result of long-standing campaigns for – often gradual – change towards **social and cultural acceptance**

> **Discriminatory laws** that don't acknowledge specific gender identity and diversity needs and negative social attitudes have all combined to hold LGBTQI+ people back. The impacts are felt by communities in all parts of the world

1) People may fit more than one of these terms
Sources: Equaldex; UNRISD; UCLA; Roland Berger

Roland Berger

People &
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4 Education

Educational attainment has come a long way – Staying in education longer is now the new global norm and still growing to 2050

Educational attainment of global adult population[1] [share in %, total in bn]

1990: 3.6 bn — 22% · 29% · 41% · 8%

2020: 5.8 bn — 13% · 20% · 51% · 16%

2050: 7.9 bn — 6% · 13% · 56% · 25%
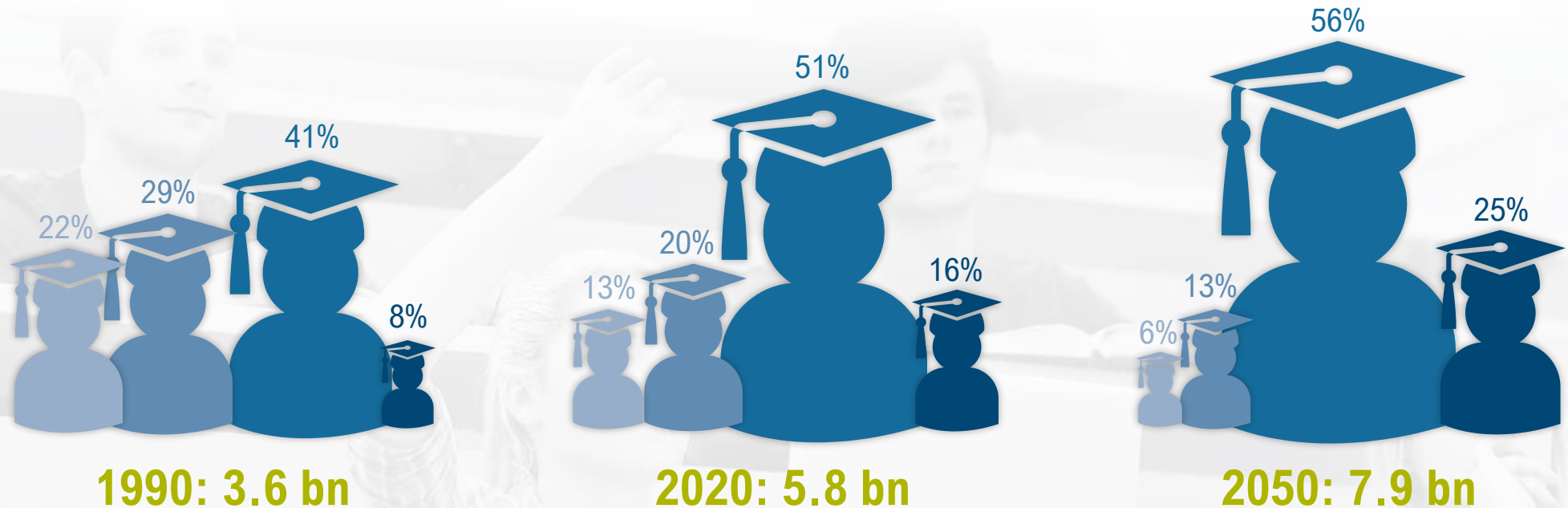
> Our world will be **inhabited by more and more educated people** as the share of people with no education decreases continuously
> By 2050, **only five countries are predicted to have a share of non-educated people that is >20%:** Burkina Faso, Ethiopia, Guinea, Mali, and Niger
> The changing level of educational attainment comes with **changing attitudes** towards education, **more public investments**, and **new methods**, such as the opportunity to study through online courses without the requirement of physical presence

No Education   Primary   Secondary   Post Secondary

1) People >15 years
Sources: Wittgenstein Centre; Roland Berger

Share of post secondary attainment is increasing in all regions to 2050 – Regionally, educational attainment levels will still vary substantially

Educational attainment of adult population per region[1] [share in %]

North America
2020: 1%, 57%, 38%, 4%
2050: 1%, 50%, 47%, 3%

Europe
2020: 1%, 64%, 28%, 7%
2050: 1%, 56%, 41%, 3%

Asia
2020: 13%, 20%, 52%, 14%
2050: 6%, 11%, 57%, 25%

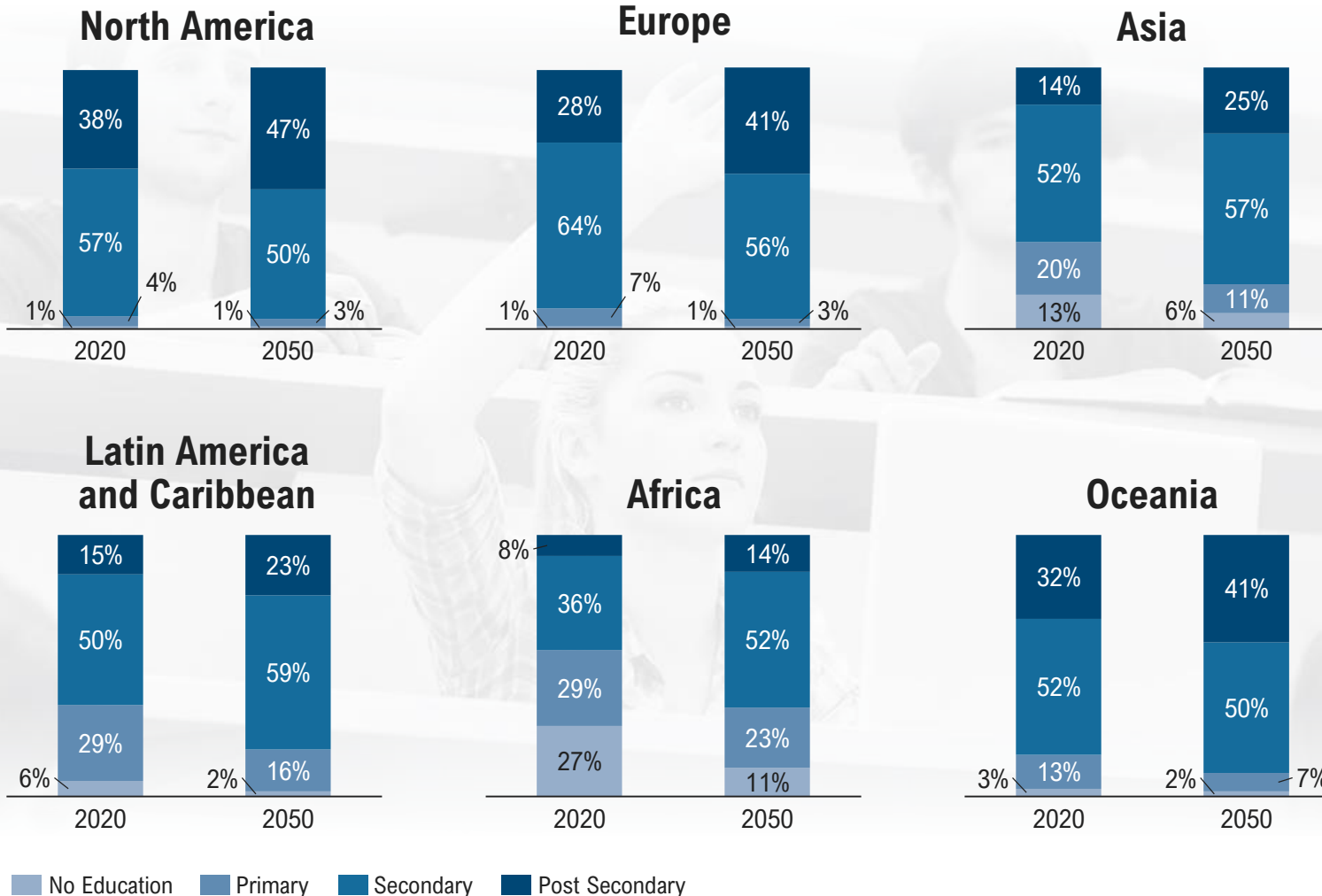### Latin America and Caribbean
2020: 6%, 29%, 50%, 15%
2050: 2%, 16%, 59%, 23%

Africa
2020: 27%, 29%, 36%, 8%
2050: 11%, 23%, 52%, 14%

Oceania
2020: 3%, 13%, 52%, 32%
2050: 2%, 7%, 50%, 41%

Legend: ☐ No Education ☐ Primary ☐ Secondary ☐ Post Secondary

> By 2050, **all regions** have achieved **growth** in **post secondary educational attainment levels,** but this will vary from 47% in North America to 14% in Africa

> At **post secondary level, Europe will see the largest percentage point rise** of all regions (from 28% to 41%), only North America will still have a larger share in 2050

> **Latin America and Asia** will also have around a **quarter** of their adult population educated to **postsecondary level**

> By contrast, **one in four people in Africa** and **nearly one in seven people in Asia** have **no education**, but, over the next three decades, both regions will successfully lower this proportion to the **benefit of** considerable – in the case of Africa – and more moderate – in the case of Asia – **increases in secondary education;** however, both these regions will still see the largest share of people without any basic education

> After Africa, **Latin America will see the largest growth in its secondary attainment share**, also overtaking Asia at the primary and Oceania at the primary and secondary level

1) People >15 years
Sources: Wittgenstein Centre; Roland Berger

Globally speaking, it pays to stay in education longer – Length of education and financial prosperity correlate positively …

Average number of years of education completed in 2020 related to GDP per capita PPP in 2020[1] [years, USD]

GDP per capita PPP [USD]

Scatter plot of GDP per capita PPP [USD] (y-axis, 0 to 70,000) versus Years of education (x-axis, 5 to 14), with data points for: Norway, USA, Germany, Australia, Japan, Korea, UK, France, Israel, Italy, UAE, Russia, Turkey, Argentina, Albania, China, Brazil, Indonesia, Colombia, India, Nigeria, Pakistan, Central African Rep., Congo, D.R.
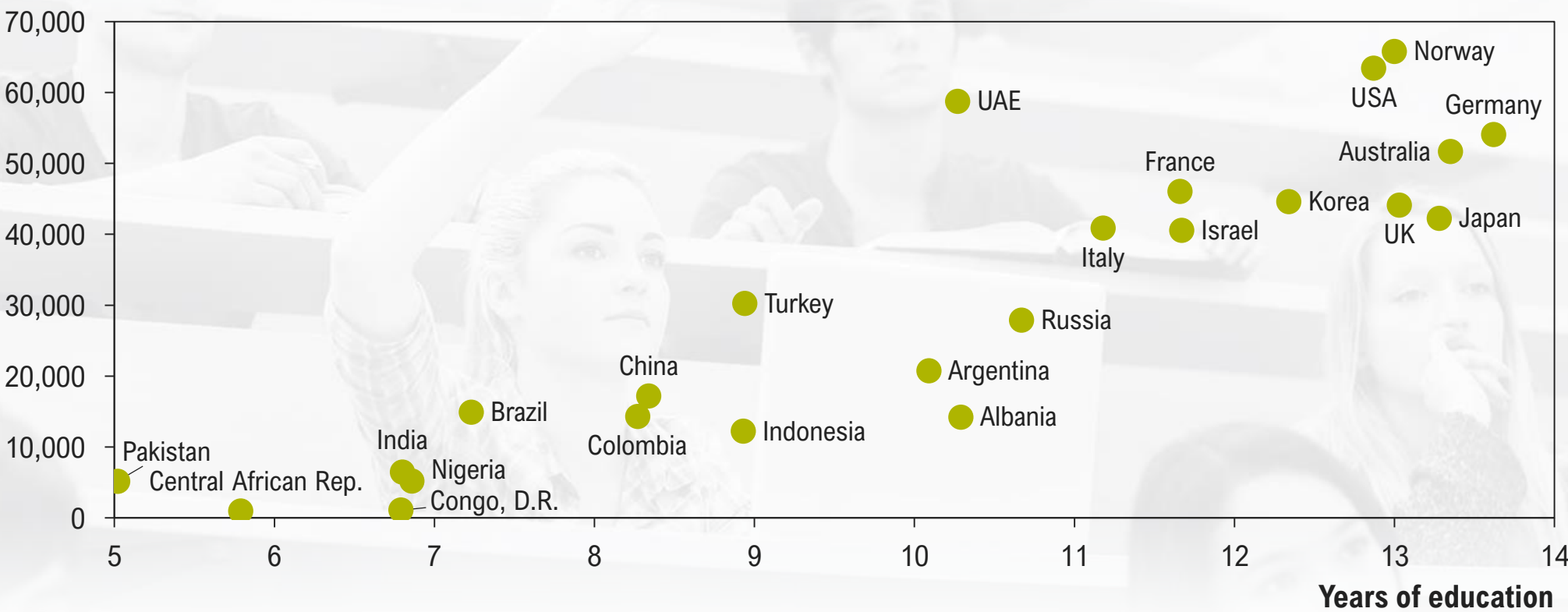
1) Number of years of education completed by people aged 25+ (medium variant). PPP stands for purchasing power parity. They are taken into consideration to create comparability across countries. Here measured in current international dollar

Sources: Wittgenstein Centre; IMF; Roland Berger
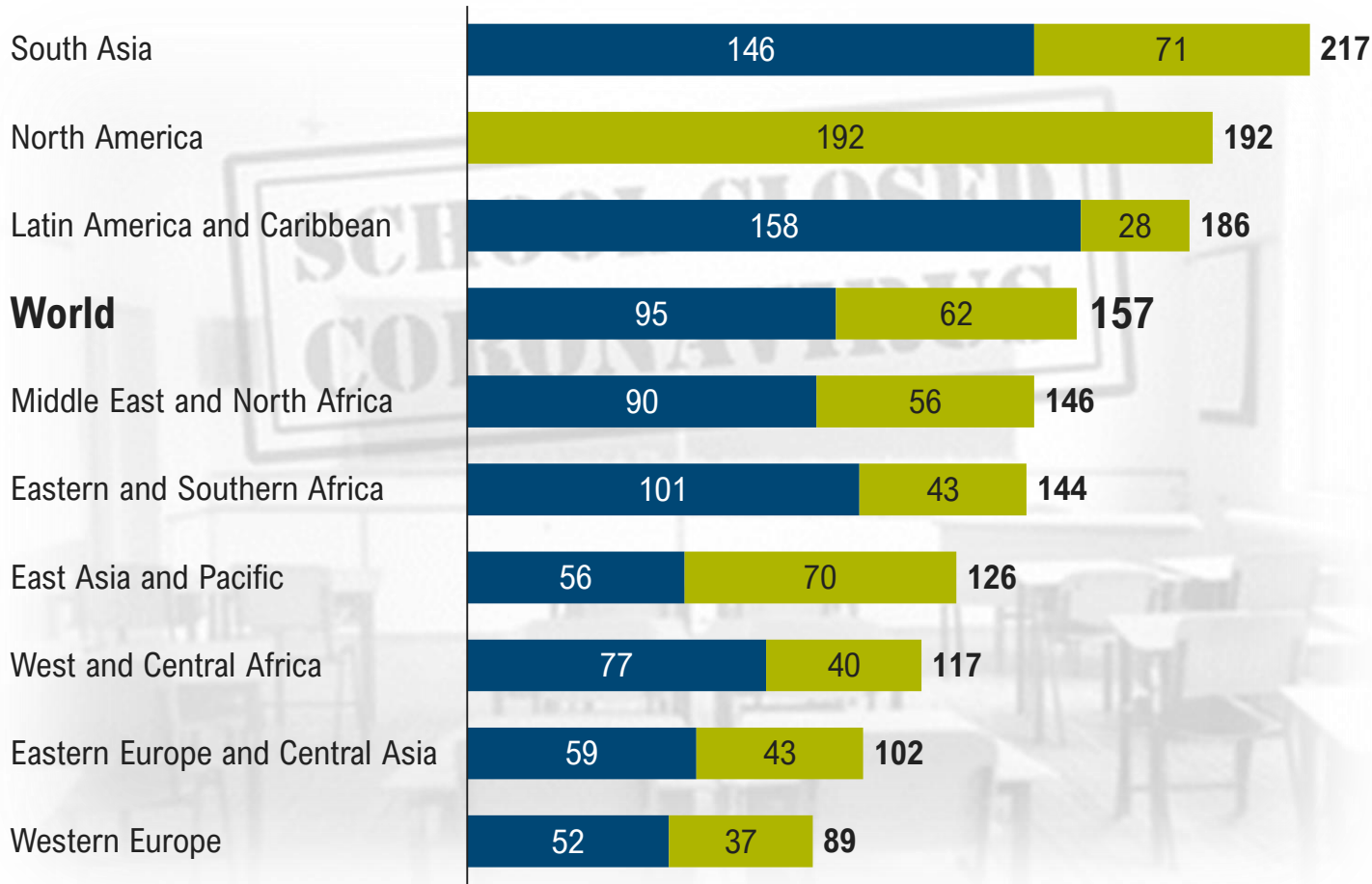
People &
Society

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… but school closures in the wake of the COVID-19 pandemic carry long-term effects, undoing progress and paving the way for increased inequality

Number of school days lost, fully and partially, by region, March 2020 to February 2021[1]

Region	Schools fully closed	Schools partially closed	Total
South Asia	146	71	217
North America		192	192
Latin America and Caribbean	158	28	186
World	95	62	**157**
Middle East and North Africa	90	56	146
Eastern and Southern Africa	101	43	144
East Asia and Pacific	56	70	126
West and Central Africa	77	40	117
Eastern Europe and Central Asia	59	43	102
Western Europe	52	37	89

■ Schools fully closed   ■ Schools partially closed

> More than **180 countries** reported temporary **school closures** to combat COVID-19, leaving approximately **1.6 billion children** out of school
> Knock-on effects: World Bank estimates that **close to 7 million pupils** across primary and secondary settings could **drop out** due to the income shock of the pandemic
> The combination of school absences and the loss of family livelihoods caused by the pandemic will see **marginalized and vulnerable groups**, like girls, ethnic minorities, and persons with disabilities **more adversely affected**
> Longer term economic effects: According to the World Bank, **five months** of school closures could result in a reduction of USD 872 in yearly earnings, leading to a **loss of USD 16,000 over an individual's working life** or a **USD 10 trillion loss for the global economy**

1) Averaged, eleven-month period of 11.03.2020 – 02.02.2021; Estimates are weighted by number of students from pre-primary to upper secondary schools in each country
Sources: UNICEF; UNESCO; World Bank; Roland Berger

Roland Berger

By 2050, India and China are projected to have the largest higher skilled young workforce – Korea and Japan lead relative to population size
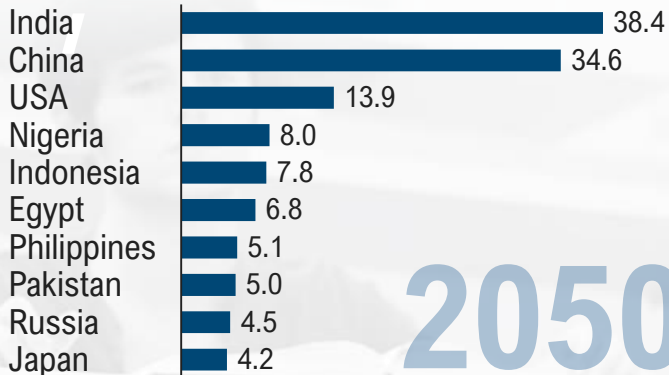
Post-secondary education in the younger workforce (aged 30-34)
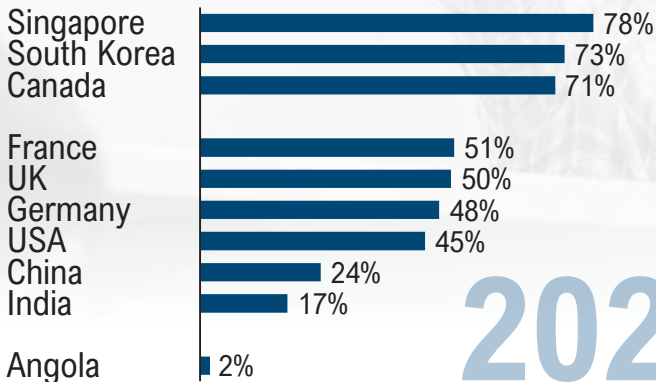
Top 10 countries in absolute numbers, 2020 [m]

Country	Value
China	31.0
India	19.4
USA	10.3
Russia	4.8
Japan	4.4
Indonesia	3.2
Brazil	2.8
Egypt	2.7
Germany	2.5
Korea	2.4

2020

Top 10 countries in absolute numbers, 2050 [m]

Country	Value
India	38.4
China	34.6
USA	13.9
Nigeria	8.0
Indonesia	7.8
Egypt	6.8
Philippines	5.1
Pakistan	5.0
Russia	4.5
Japan	4.2

2050

Share in the younger workforce, selected countries, 2020 [%]

Country	Value
Singapore	78%
South Korea	73%
Canada	71%
France	51%
UK	50%
Germany	48%
USA	45%
China	24%
India	17%
Angola	2%

2020

Share in the younger workforce, selected countries, 2050 [%]

Country	Value
South Korea	86%
Japan	83%
Taiwan[1]	82%
France	68%
UK	64%
Germany	64%
USA	58%
China	49%
India	33%
Angola	2%
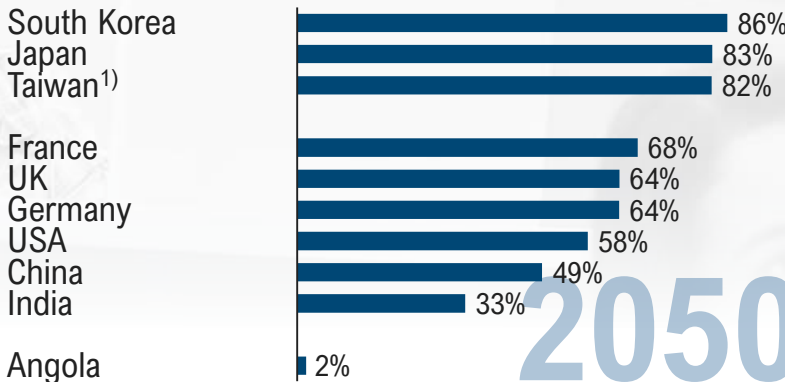
2050

> Although regional attainment levels vary, country variations are highly distinct – noticeably at the post-secondary level, where **Asian countries lead in absolute and relative terms**, now and in 2050

> In terms of sheer numbers of providing the world with a highly educated, younger workforce, **India and China will lead for the next three decades** – totaling a number not achieved by the next 8 countries combined

> By **share of population**, even **more Asian countries** rank among the **top positions** in the highly educated younger workforce leaderboard in 2050

1) Province of China
Sources: Wittgenstein Centre; Roland Berger

Roland Berger

People &
Society

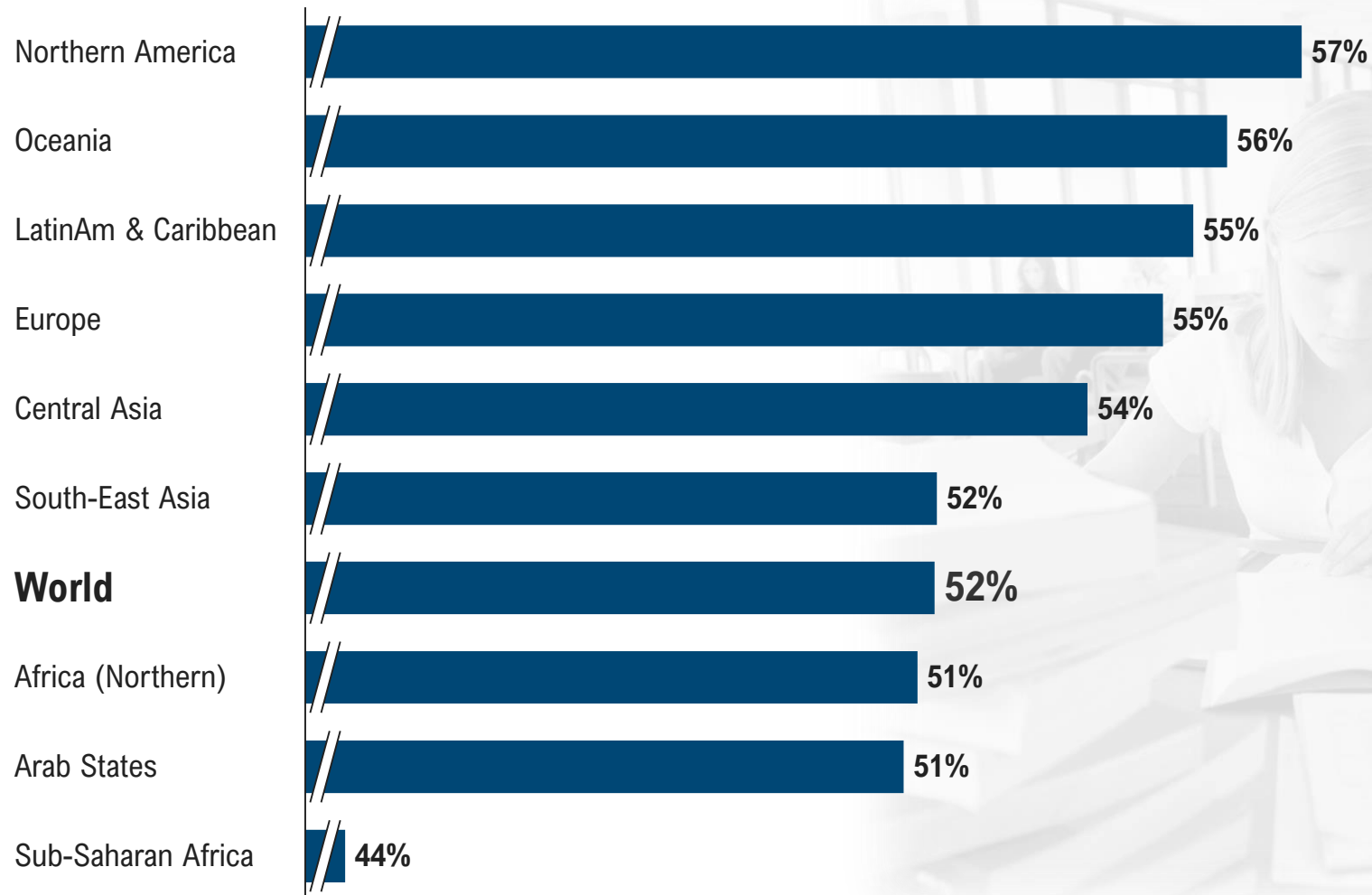1 Population

2 Migration

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4 Education

In tertiary enrolment, women have taken the lead in almost all regions

Share of women enrolled in tertiary education by region, 2018

Region	Share
Northern America	57%
Oceania	56%
LatinAm & Caribbean	55%
Europe	55%
Central Asia	54%
South-East Asia	52%
World	**52%**
Africa (Northern)	51%
Arab States	51%
Sub-Saharan Africa	44%

> Since the early 2000s, the global participation of women in tertiary education has exceeded that of men, **shifting gender disparity from a male to a female advantage**: In 2018, the global parity index (**GPI**) for tertiary enrolment of women and men stood at **1.14** (across primary and secondary education it is broadly equal)

> However, as a global average, the proportion of **women receiving tertiary education is relatively balanced**; in this respect, it is not possible to speak of a gender gap

> Parts of Africa **have the potential to increase** the proportion of women in tertiary education
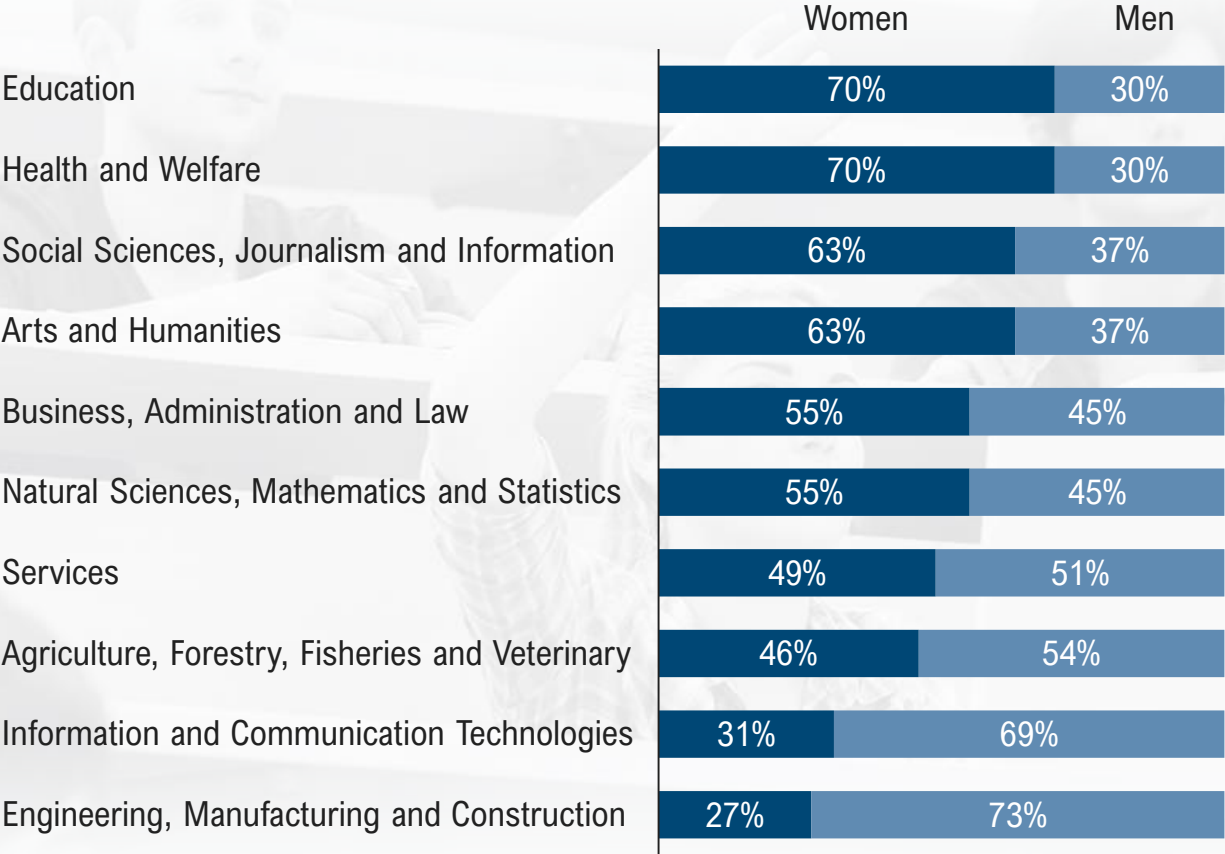
Sources: UNESCO/UIS; Roland Berger

Roland Berger

Looking at different fields of study, the share of women and men strongly varies – In STEM subjects only around one third of graduates are women

Proportion of female and male tertiary graduates by field of study, global average: 2010-2019 [%]

	Women	Men
Education	70%	30%
Health and Welfare	70%	30%
Social Sciences, Journalism and Information	63%	37%
Arts and Humanities	63%	37%
Business, Administration and Law	55%	45%
Natural Sciences, Mathematics and Statistics	55%	45%
Services	49%	51%
Agriculture, Forestry, Fisheries and Veterinary	46%	54%
Information and Communication Technologies	31%	69%
Engineering, Manufacturing and Construction	27%	73%

> Advances in women's enrolment not withstanding, along **fields of study**, **gender gaps are highly evident**

> Globally, **women** make up the majority of graduates in fields related to **education**, **health, arts and humanities and social sciences** while most graduates in engineering and ICT are men; fields of study such as business, law and are more equally balanced

> In **STEM** subjects (Science, Technology, Engineering, Mathematics) overall, **female graduates** are **vastly underrepresented**, constituting only around **35%** of the world's STEM graduates

> However, **within STEM fields** and due to significant gains in enrolment in recent decades, **gender parity** has been achieved among students graduating in **natural sciences**, **mathematics and statistics**

> Gender differences in the number of STEM graduates are evident in both developed and developing regions of the world, but show a surprising variety in countries that have succeeded in STEM gender parity: Tunisia, Morocco, Qatar, the Sudan, the Syrian Arab Republic, Benin, Brunei Darussalam, the Gambia and Peru; while in **four countries** (Algeria, Myanmar, Oman and Sint Maartin) **significantly more women than men graduated in STEM**

Sources: UNESCO/UIS; UN SDG; Roland Berger

Roland Berger

Global student mobility is set to rise to 7 million in 2030 with flows originating mostly from lower income countries – Growth is slowing

Top 10 inbound and outbound countries, total students and international recruitment targets, 2018

Number of inbound students, top 10 countries ['000]

Country	Students
USA	987
UK	452
Australia	445
Germany	312
Russia	262
France	230
Canada	225
Japan	183
China	178
Turkey	125

Number of outbound students, top 10 countries ['000]

Country	Students
China	993
India	375
Germany	123
Vietnam	109
Korea	102
France	99
USA	84
Kazakhstan	84
Nepal	82
Saudi Arabia	77

> Today, over **5.5 million international students travel abroad** for education; by **2030** this is expected to reach at least **7 million students**

> Major factors of mobility are **teaching quality** (including prestige), **capacity** (including visas), **teaching language** as well as personal means of funding foreign studies

> Although **quality** of education remains highly important – with strong academic, internationally prestigious institutions in North America and Europe having historic appeal – **language** is another important factor, keeping English-speaking destination countries relevant; at the same time, English-language taught courses are increasingly offered in non-English-speaking countries, adding to the **global competitive mix**

> In terms of **capacity** – and to counteract the clear pull of the American tertiary education market – most major countries have set themselves considerable **strategic targets for international student recruitment as part their overall national educational policies**

> However, even pre-pandemic, the rate of **growth of outbound mobility** was predicted **to slow** from an annual average of 5.7% (2000-15) to **1.7% annual average growth to 2027**; this deceleration is mainly due to a sustained increase of **better-quality local provision of higher education** in previously lesser served markets such as in parts of Asia

> Now, higher education experts predict that it could take **five years before global student mobility recovers** from the world recession expected to follow the pandemic

> Meanwhile, higher education delivery has experienced **a decoupling** of institutional location and course content delivery, particularly since the advent of digital forms of remote learning such as MOOCs[2] – affirming the new role of **technology in global education**

1) MOOC: Massive Open Online Course
Sources: UNESCO/UIS; British Council; University World News; ICEF Monitor; Roland Berger

People &
Society

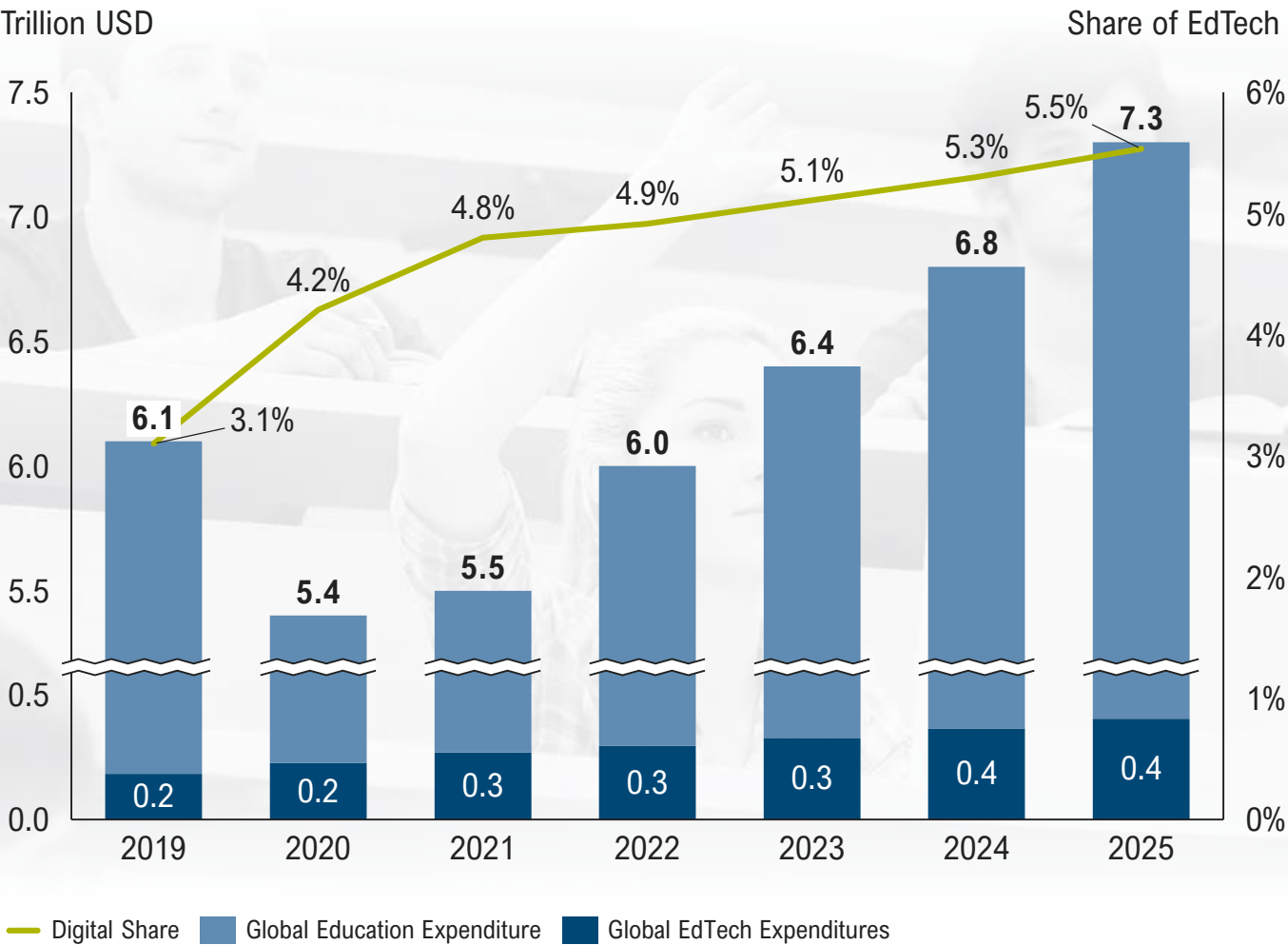1 Population

2 Migration

3 Values

4 Education

EdTech share is set to increase to 5.5% of total educational expenditure by 2025 – The future of education can only be more digital

Global Education and EdTech expenditures [USD tr], share of digital [%]

Trillion USD

Share of EdTech

- Digital Share
- Global Education Expenditure
- Global EdTech Expenditures

Year	2019	2020	2021	2022	2023	2024	2025
Global Education Expenditure	6.1	5.4	5.5	6.0	6.4	6.8	7.3
Global EdTech Expenditures	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Digital Share	3.1%	4.2%	4.8%	4.9%	5.1%	5.3%	5.5%

> Education is a digital laggard: Compared to total expenditure of the sector, expenditure for digital educational technology and infrastructure (**EdTech**) – **just over 4%** – is relatively small; this share is projected to **rise to 5.5% by 2025**

> School closures due to the pandemic have, where possible, **accelerated the use of EdTech**: across all educational settings, digital lessons in virtual classrooms are the new learning environment; students, lecturers and higher education bodies had to **up-skill** rapidly; the youngest pupils at primary and secondary levels and their teachers are now "**pre-skilled**" in virtual learning formats, potentially fast forwarding a generation of new learners being more at ease with **digitally embedded** higher educational journeys and **unbundled** transnational education models

> Online platform models (such as remote or blended learning, enterprise/continued professional development courses, MOOCs, virtual campus formats) are equally attractive for **life-long, digital learners**

Sources: HolonIQ; Roland Berger

Roland Berger

1 Population

2 Migration

3 Values

4 Education

Corporate actions – Let's talk about … opportunities arising from population and migration megatrends

Population

Enter growing markets – Population growth is a driver for economic growth, in terms of workforce as well as customers. To enter markets with high population growth can be a promising strategy to gain global market share and/or to recruit talent, and to manufacture in or for such markets. Particularly promising locations are countries where a growing population goes hand in hand with a rising GDP per capita – many such markets can be found in Asia, Africa and Latin America. Evidently, many more factors must be considered, particularly when it comes to building up production sites and capital investments, such as the ease and safety of doing business, levels of education and geo-political stability

Address older demographics – A rising older population share affects companies not just in terms of their customer base but also in terms of human capital. Companies do well to rethink the needs as well as the benefits of an increasing older share within their workforce (for example, in terms of training and life-long learning provisions) as much as in their customer base to find solutions and/or adapt to the requirements of the latter while tapping into the many benefits of the deep know-how and rich experience of the former. Strong corporate knowledge transfer processes with a view to productivity and a review of target markets, products, and services are key

Use the business opportunities of cities – Ongoing urbanization trends drives the demand for smart and sustainable infrastructure solutions regarding buildings, transportation and mobility, digital connectivity, utility services such as energy and waste, and other public and private services. Companies need to work together with other companies beyond their traditional sector understanding to fulfill this evolving demand in changing markets. Connecting the urban sprawl with more rural areas is a further business opportunity for companies. Innovations often arise from more urban needs and filter out into other surroundings; in this way, cities can act as living labs for new products and services

Migration

Enlarge your talent pool – Companies in many developed countries suffer from a shortage of qualified staff – especially in countries with a shrinking population. A significant proportion of immigrants is highly qualified and motivated, and eager to learn. Tapping into this talent pool helps to overcome labor shortages. Companies positioning themselves internationally as an attractive and diverse employer have a clear advantage here

Use the push for diversity – The cross-cultural background of immigrants adds to companies becoming more diverse as well as inclusive. There is a lot of evidence that diverse teams deliver better results and attract more people from more varied backgrounds. A combination of global recruiting and diversity-aware management supplemented with targeted retention strategies can lead to significant competitive and strategic advantages

Tap into new perspectives – A workforce with multi-cultural backgrounds and varied life experiences brings new ideas and innovative perspectives to a company. At best, immigrant staff has clearer insights into regional or national customer needs in their country of origin, and how to approach these customers, for example with frugal products or adapted services. In turn, this can clearly benefit international expansion strategies. In addition, such employees aid communication and facilitate cultural understanding within the context of internationally operating companies

Source: Roland Berger

Roland Berger

Corporate actions – Let's talk about … opportunities arising from values and education megatrends

Values

See diversity as a business advantage – Rising levels of diversity and multiculturalism offer a variety of opportunities for companies. Working from a point of awareness and inclusivity, your customer universe is enlarged – one size does not fit all. Adapting best selling products to more nuanced customer profiles, cultures and value preferences opens access to new markets and target groups, such as offering products that new or prospective citizens are missing from their home markets or offering a top selling product with a service bundle to attract customers outside of the typical age bracket. At company level, diverse and diversity-aware staff and management bring a wider, more culturally balanced worldview to new business opportunities and entrepreneurial endeavors, as well as to internal processes along the value chain, making decisions more broadly based and ultimately more stable

Build on SDGs – Universally acknowledged Sustainable Development Goals transfer values into goals. Making the world more sustainable in areas defined by the SDGs offers a wide spectrum of tangible business opportunities and points of differentiation. Harnessing sustainability criteria for your business offerings and solutions is a clear must have – and one that companies can shout about, too

Make gender equality count – Let the numbers speak for themselves in your company, not just in evidence-based, academic studies and surveys: Companies literally profit if they have more – or an equal share of – women among their workforce and in their management. The larger the company, the better to have more women on board at all levels. Bottom line aside, company cultures change for the better when (more) women have equity and responsibility, too. (Re-)Think gender equality along your value chain, from supply and production through to sale and service, from the shop floor to top management. Gender equality is not a topic confined to HR, it's a business-wide, highly aspirational advantage. Beyond that (and in almost all cases), half of your customers and stakeholders are women, too

Education

Profit from better educated people – Superior levels of know-how amongst a company's workforce always represent a competitive advantage. As educational attainment is rising globally, companies can benefit and broaden their global footprint, for instance, when entering newly emerging or developing markets that have caught up with required educational standards. For multinational companies, a better educated local workforce brings a new proximity and stability to overseas markets without additional resource allocation

Tap into women's know-how – In nearly all parts of the world, women represent the majority of students enrolled in tertiary education. This development heralds a fundamental change in academic achievements, in knowledge acquisition and perceptions, and ultimately continues into broadening the knowledge base of companies that are open to giving access to equitable and diverse teams

Switch to EdTech solutions – Teaching and training is not what it used to be; while education providers are playing catch-up with the technological savviness of younger generations, companies can either prepare for new, digital approaches of (increasingly decoupled) learning and instruction – or play an active part in development and application. Expenditure for digital educational technology and infrastructure (EdTech) is increasing, but the potential for a wide array of EdTech solutions is huge and concerns all ages and settings. Companies active in education and affiliated areas should shift their investment towards EdTech solutions for promising market opportunities. Cooperation with digital companies and start-ups are highly beneficial here, while close cooperation with official educational bodies can yield long-term partnerships on their path of multi-use digital transformation. At company level, EdTech will be essential to educate employees of all ages and at all levels, providing ready access to continued professional development and training

Source: Roland Berger

Roland Berger

Main sources

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Source: Roland Berger

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