

# Annual Review 2020

 NOVARTIS





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**Cover photo** Marco Bego (standing) is chief innovation officer at the Hospital das Clinicas of the University of São Paulo, the largest hospital in Latin America. Mr. Bego and his team created an artificial intelligence platform, developed with the support of the Novartis Foundation as well as government and civil society partners, to quickly assess lung damage in COVID-19 patients via X-rays and CT scans. The platform helped more than 50 hospitals in Brazil manage patients as the pandemic surged.

**Inside cover photo** Chiara Cancellario (center) leads a team meeting at a Novartis production site in Torre Annunziata, Italy. Ms. Cancellario and her colleagues worked to maintain the supply of critical medicines for patients during the COVID-19 pandemic. In challenging circumstances, the Torre team broke a production record for the heart failure medicine *Entresto* in March.

# Chairman's letter

The COVID-19 pandemic in 2020 created massive societal, economic and healthcare challenges. Novartis took careful steps to protect our associates, maintain supplies of medicines to patients and ensure business continuity, helping us also meet the needs and interests of our healthcare partners, stakeholders and shareholders.

These actions enabled Novartis to navigate the pandemic and paved the way for future growth. We increased sales and operating profit in 2020, generated good cash flows and continued to innovate. We absorbed the economic shock without resorting to government support or dividend cuts, and we committed to no COVID-19-related job losses during the year. Our performance demonstrates our strong operational resilience and ability to cater to diverse patient needs in challenging situations.

Even as the healthcare landscape changed, we launched new products and strengthened our foothold in the biosimilars arena. Our new launches included the multiple sclerosis medicine *Kesimpta* and the lung cancer treatment *Tabrecta*. We supported these market entries through digital platforms. Biosimilars, meanwhile, benefited from increased demand amid a continued focus on healthcare costs.

Our research and development activities remained robust. We leveraged remote monitoring technology to ensure patient safety while keeping the majority of our clinical trials on track. We also enhanced internal and external collaboration to bolster our medical pipeline. Going forward, we will continue to pursue our science-based innovation strategy, focusing on fast-growing areas of healthcare, including oncology, cardiology and lung diseases.

We also participated in cross-industry collaborations to fight the pandemic and took steps to support patients in low-income and lower-middle-income countries through a dedicated generic medicines portfolio as well as the creation of a relief fund for affected communities. These efforts are designed to help mitigate the effects of the pandemic in the months and years to come, especially in the most vulnerable regions of the world, where healthcare-related challenges can have undue long-term societal and economic consequences.

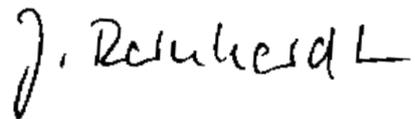
Demonstrating the Board of Directors' and management's attention to the growing importance of our environmental, social and governance (ESG) agenda, we further reduced our environmental footprint, expanded our global health efforts and strengthened our governance framework. We consider

these steps essential to contribute to efforts led by the United Nations to fight poverty and climate change, and work toward the creation of more equitable societies.

With the goal of strengthening our reputation and protecting the interests of patients, stakeholders and shareholders, we also overhauled our third-party risk management to establish stricter controls of our supplier network. Our new Code of Ethics, crowdsourced by associates and rolled out in 2020, is aimed at integrating ethics more closely into business decision-making. These steps are helping Novartis make progress toward its ambition to be one of the world's most trusted healthcare partners.

I thank you for the confidence you have placed in our company and am pleased to be able to propose a dividend increase of 2% to CHF 3.00 at the next Annual General Meeting.

Sincerely,



**Joerg Reinhardt**  
Chairman of the Board of Directors



Our performance demonstrates our strong operational resilience and ability to cater to diverse patient needs in challenging situations

Joerg Reinhardt

As we review our performance for the year, I feel proud of the resilience and agility of our people who continued to make progress in reimagining medicine

Vas Narasimhan



## CEO's letter

2020 was a unique year in the long history of Novartis, as the COVID-19 pandemic challenged us to deliver on our purpose despite immense challenges to healthcare systems and society. Our company has the utmost respect and gratitude for healthcare professionals around the world who are caring for patients, as well as for scientists who are finding ways to end the pandemic.

As we review our performance for the year, I feel proud of the resilience and agility of our people who continued to make progress in reimagining medicine. In challenging circumstances, they maintained the supply of Novartis medicines to patients around the world while advancing our pipeline and pivoting to new ways of engaging with customers and each other.

We continued to make progress on our strategic priorities. We delivered new innovative medicines for patients, including a treatment for relapsing forms of multiple sclerosis and a first-in-class siRNA cholesterol-lowering treatment. We continued to develop and build out our pipeline, which remains one of the most valuable in the industry. We're especially optimistic about our mid- to late-stage pipeline, tracking five promising assets in our Oncology pipeline, six in our Pharmaceuticals pipeline, and an additional five medicines that are already approved and that we believe can be further applied to expanded areas of treatment.

Our ongoing commitments to operational excellence and our digital transformation were critical to our success. We

managed disruptions to our development programs, with our early investments in data science and technology helping to keep the majority of our clinical trials on track. As most of the world went into lockdown, we mitigated the disruption as much as we could by shifting to digital launches. We kept our supply stable while continuing to transform our production network to prepare for future growth.

We also continued to make progress in building trust with society. We announced new, ambitious targets regarding access to medicine and global health, and we issued a sustainability-linked bond to reinforce our commitment to achieving them. We also strengthened our environmental targets, launched a new Code of Ethics, and followed through on our promise to settle legacy legal matters from years prior.

Culture underpinned all of our efforts. The pandemic connected associates even more strongly to our purpose, created new demands for learning, and demonstrated the benefits of empowered working. We launched a new working model in 2020 designed to provide associates with greater flexibility while ensuring we continue to drive innovation and performance.

I'm also proud of the ways Novartis contributed to the global pandemic response. Through Sandoz, Novartis was the first company to commit to keeping the prices of essential generic medicines stable. We launched a first-of-its-kind not-for-profit portfolio of medicines to treat symptoms of

COVID-19. And we played our part in the scientific effort to find treatments for the disease. Across the industry, we are sharing our scientific findings and our research and manufacturing capacity while committing to equitable distribution of diagnostics, therapeutics and vaccines. Many more response efforts are outlined in this report.

Delivering on our strategy supported our financial performance in 2020. Although the pandemic affected demand in some therapeutic areas, strength in key products helped us post net sales of USD 48.7 billion, up 3%, measured in constant currencies (cc). Our core operating income rose 13% (cc) to USD 15.4 billion.

As I write this letter at the end of 2020, the world remains in the grip of COVID-19. Yet we have reasons to be optimistic. The pandemic has demonstrated what is possible when human resilience and collaborative science rise to the occasion. Novartis will continue to deliver on our purpose to reimagine medicine by developing transformative new treatments and finding innovative solutions to the world's most pressing healthcare challenges.

Sincerely,

**Vas Narasimhan**  
Chief Executive Officer

# Who we are

## Our purpose

We reimagine medicine to improve and extend people’s lives. We use innovative science and technology to address some of society’s most challenging healthcare issues. We discover and develop breakthrough treatments and find new ways to deliver them to as many people as possible. We also aim to reward those who invest their money, time and ideas in our company.

## Our company

### INNOVATIVE MEDICINES

The Innovative Medicines Division has two business units:

#### Novartis Oncology

Novartis Oncology focuses on patented treatments for a variety of cancers and rare diseases.

#### Novartis Pharmaceuticals

Novartis Pharmaceuticals focuses on patented treatments in multiple disease areas to enhance health outcomes for patients and offer solutions to healthcare providers.

### SANDOZ

The Sandoz Division offers patients and healthcare professionals high-quality, affordable generics and biosimilars.

### NOVARTIS TECHNICAL OPERATIONS (NTO)

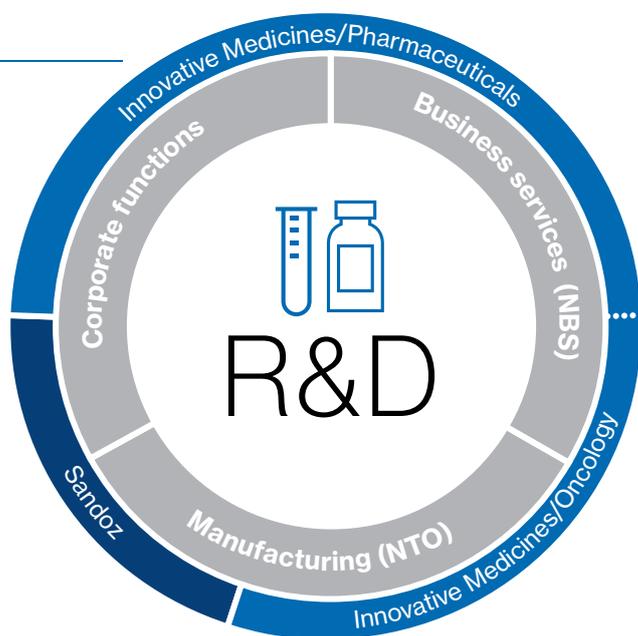
is responsible for making our innovative medicines, devices and Sandoz products, and delivering them to our customers across the world.

### NOVARTIS BUSINESS SERVICES (NBS)

consolidates support services across our organization, helping drive efficiency, simplification, standardization and quality.

### CORPORATE FUNCTIONS

support the enterprise in specific areas of expertise, including finance, human resources, legal, communications, and ethics, risk and compliance.



## RESEARCH AND DEVELOPMENT (R&D)

**The Novartis Institutes for BioMedical Research (NIBR)** is the innovation engine of Novartis. NIBR focuses on discovering new drugs that can change the practice of medicine.

**The Global Drug Development (GDD)** organization oversees the development of new medicines discovered by our researchers and partners.

## Our values and behaviors

### INSPIRED

ENGAGE OUR PEOPLE  
STRIVE FOR PATIENTS  
LIVE OUR PURPOSE

### CURIOS

LEARN  
BE OPEN  
BE SELF-AWARE

### UNBOSS

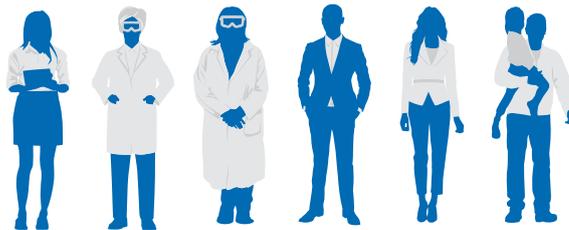
CREATE CLARITY  
SERVE OTHERS  
OWN YOUR ACTIONS

### INTEGRITY

BE HONEST  
HAVE COURAGE  
DO WHAT'S RIGHT

## Our people

The greatest strength of Novartis is our people, whose diversity, energy and creativity are crucial to our success.



## Our products

Our products address most major disease areas and are sold in approximately 155 countries around the world. Our manufacturing facilities produced 72 billion treatments in 2020.

We develop and produce innovative medicines to address patient needs in disease areas where our experience and knowledge have the potential to produce transformative treatments.

We also offer about 1 000 generic and bio-similar medicines covering a broad range of therapeutic areas. They can bring substantial savings to patients and healthcare systems, and help improve access to healthcare.



# How we create value

In a rapidly changing business environment, our strategy and business model help us deliver on our purpose and create value for our company and society.

## Our business environment

### ACCELERATING INNOVATION

**46**

The average yearly number of new drugs approved by the US FDA's Center for Drug Evaluation and Research from 2016-2020, an increase of 25% compared with 2011-2015

### SURGING USE OF DIGITAL TECHNOLOGY IN HEALTHCARE

**235 bn**

The projected value of the global digital health market by 2023 (USD), a 60% increase from 2019, according to the Frost & Sullivan Global Digital Health Outlook 2020

### AGING POPULATIONS FUELING A RISE IN CHRONIC DISEASES

**77.1 years**

The projected average global life expectancy in 2050, compared with 72.6 years in 2019, according to the United Nations World Population Prospects

### RISING HEALTHCARE SPENDING

**5%**

The expected annual average growth in healthcare spending between 2020 and 2023, according to the Economist Intelligence Unit

### ACCESS TO HEALTHCARE REMAINS A GLOBAL ISSUE

**2 bn**

The number of people who lack access to essential medicines, according to the World Health Organization

## Our strategic priorities

**Our strategy is to build a leading, focused medicines company powered by advanced therapy platforms and data science.**



### UNLEASH THE POWER OF OUR PEOPLE

We are transforming our culture to ensure people can fully apply their talent and energy. We're creating an organization where people are inspired, curious and unbossed.



### DELIVER TRANSFORMATIVE INNOVATION

In our pursuit of transformative treatments, we challenge medical paradigms and explore possibilities to cure disease, intervene earlier in chronic illnesses, and find ways to dramatically improve quality of life.



### EMBRACE OPERATIONAL EXCELLENCE

We are rethinking how we work, embracing agile teams and building better productivity into our company to free resources that we can invest in innovation and help boost returns.



### GO BIG ON DATA AND DIGITAL

We aim to spark a digital revolution at Novartis, embracing digital technologies, advanced analytics and artificial intelligence to help drive innovation and improve efficiency.



### BUILD TRUST WITH SOCIETY

We strive to build trust with society through finding new ways to expand patients' access to our treatments and operating with integrity.

## Our business model

### RESOURCES WE USE

#### HUMAN CAPITAL

We depend on the skills and creativity of our employees to discover, develop and produce new medicines, and deliver them to patients.

**110 738** Headcount

**45.7** Annual training hours per employee

#### FINANCIAL CAPITAL

We use cash, equity and debt to meet our financial commitments, make investments and pay dividends.

**214.3 bn** Year-end market capitalization (USD)

**1.85 bn** The value of our sustainability-linked bond issued in 2020 (EUR)

#### INTELLECTUAL CAPITAL

We use expertise and data to develop and market our products. We hold patents and trademarks that protect the long-term investments required for our business.

**9.0 bn** Investment in research and development in 2020 (USD)

**160+** Pipeline projects with ongoing clinical trials in Phases I to III

#### NATURAL CAPITAL

We responsibly consume energy, water and other resources to manufacture our products and operate our business.

**11.15** Energy use, on site and purchased (million gigajoules)

**8.5** Water consumption (million m<sup>3</sup>)

#### MANUFACTURED CAPITAL

We own or lease research laboratories, manufacturing sites and offices around the world. We use artificial intelligence, gene editing and other technologies.

**60** Novartis manufacturing facilities

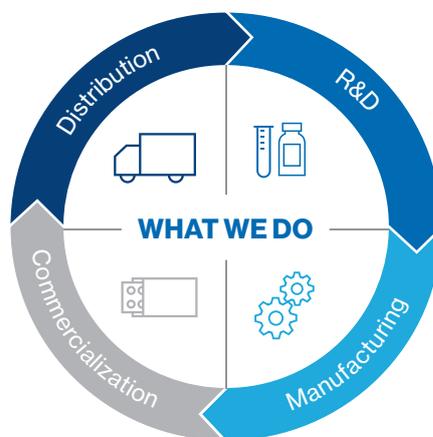
**72 bn** Treatments produced by our manufacturing facilities in 2020

#### RELATIONSHIP CAPITAL

We build trusted relationships with stakeholders to bring treatments to patients, advance drug discovery and expand patient access.

**24 432** Field force representatives in our Innovative Medicines Division

**98%** Employees who completed e-training on new Code of Ethics (to be completed by February 2021)



### VALUE WE CREATE

#### PATIENTS

**769 m**

Patients reached with Novartis medicines

**26**

Approvals granted to Novartis in 2020 in the US, the EU, Japan and China for new treatments as well as new indications for existing treatments

#### EMPLOYMENT

**974 000**

Estimated jobs created by Novartis (2019), including own employees, indirect and induced

**80**

Engagement score (out of 100) in Q4 survey of Novartis associates, an all-time high and 7 points ahead of the industry benchmark

#### SHAREHOLDERS

**8.1 bn**

Net income in 2020 (USD)

**7.0 bn**

Total dividends paid (USD)

#### ENVIRONMENT

**19%**

Reduction in greenhouse gas emissions vs. 2016 baseline (Scope 1 and Scope 2)

**35%**

Reduction in water consumption vs. 2016 baseline (million m<sup>3</sup>)

# Key performance indicators consolidated highlights

## Financial

### Key figures<sup>1</sup>

(in USD millions, unless indicated otherwise)

	2020	2019	% Change	
			USD	Constant currencies
Net sales to third parties from continuing operations	<b>48 659</b>	47 445	3	3
Operating income from continuing operations	<b>10 152</b>	9 086	12	19
% of net sales to third parties	<b>20.9</b>	19.2		
Net income from continuing operations	<b>8 071</b>	7 147	13	20
Net income from discontinued operations		4 590	nm	nm
Net income	<b>8 071</b>	11 737	- 31	- 27
Basic earnings per share <sup>2</sup> (USD) from continuing operations	<b>3.55</b>	3.12	14	21
Basic earnings per share <sup>2</sup> (USD) from discontinued operations		2.00	nm	nm
Basic earnings per share <sup>2</sup> (USD)	<b>3.55</b>	5.12	- 31	- 26
Core operating income from continuing operations	<b>15 416</b>	14 112	9	13
% of net sales to third parties	<b>31.7</b>	29.7		
Core net income from continuing operations	<b>13 158</b>	12 104	9	12
Core earnings per share <sup>2</sup> from continuing operations (USD)	<b>5.78</b>	5.28	9	13
Free cash flow from continuing operations	<b>11 691</b>	12 937	- 10	

nm = not meaningful

### Share information

	2020	2019	% Change
Share price at year-end (CHF) <sup>3</sup>	<b>83.65</b>	91.90	- 9
ADR price at year-end (USD) <sup>3</sup>	<b>94.43</b>	94.69	0
Dividend <sup>4</sup> (CHF)	<b>3.00</b>	2.95	2

<sup>1</sup> This Novartis Annual Review 2020 includes non-IFRS financial measures such as core results, constant currencies and free cash flow. Novartis believes that investor understanding of the Group's performance is enhanced by disclosing these non-IFRS measures. A definition of non-IFRS measures used by Novartis, and further details, including reconciliation tables, can be found in "Item 5. Operating and Financial Review and Prospects" of the Novartis Annual Report 2020.

<sup>2</sup> 2020 weighted average number of shares outstanding: 2 277 million (2019: 2 291 million)

<sup>3</sup> The share price and ADR price at year-end 2019 exclude the business of Alcon, which was spun off in April 2019 into a separately traded standalone company.

<sup>4</sup> Dividend 2020: proposal to shareholders for approval at the Annual General Meeting on March 2, 2021

## Innovation

### Key figures<sup>1</sup>

	2020	2019
Projects entering development pipeline <sup>2</sup>	6	8
Ongoing Phase III programs <sup>3</sup>	44	38
US FDA breakthrough therapy designations <sup>4</sup>	2	3
Major submissions (US, EU, JP, China) <sup>5</sup>	13	33
Major approvals (US, EU, JP, China) <sup>5</sup>	26	24
New molecular entity (NME) approvals <sup>6</sup>	4	5

## Social

### Access

	2020	2019
Total patients reached (millions)	769	799
Patients reached through access-to-healthcare <sup>7</sup> activities (millions)	66	16

### People

Full-time equivalent positions / headcount <sup>8</sup>	105 794 / 110 738	103 914 / 108 776
Turnover: % voluntary / % overall	5.2 / 10.1	7.0 / 14.0
Women in management: % of management <sup>9</sup> / % of Novartis Top Leaders <sup>10</sup> / % of Board of Directors	45 / 33 / 29	44 / 31 / 25
Misconduct cases (central matters) <sup>11</sup> reported to the SpeakUp Office <sup>12,13</sup>	142	209

### Health, safety and environment<sup>14</sup>

Lost-time injury and illness rate (per 200 000 hours worked) <sup>15</sup>	0.13	0.18
Greenhouse gas emissions, total Scope 1 and Scope 2 (1 000 t) <sup>16</sup>	788.6	896.6

<sup>1</sup> Includes Innovative Medicines and Sandoz biosimilars only

<sup>2</sup> Includes programs entering confirmatory development, based on internal R&D activities. First patient, first visit (FPFV) has occurred in post-proof-of-concept stage after NIBR or external entry.

<sup>3</sup> Includes projects with FPFV in a Phase III study but not yet filed in the US, EU, Japan or China

<sup>4</sup> Number of breakthrough therapy designations granted by the US Food and Drug Administration for therapies under development by Novartis

<sup>5</sup> Includes small molecules, biologics; new fixed-dose combinations of existing APIs; and new target indications, defined as new disease or new line of treatment (e.g., first line vs. second line)

<sup>6</sup> Includes NMEs such as small molecules, biologics; in the EU, new fixed-dose combinations of existing APIs

<sup>7</sup> Novartis Global Health, local brands, patient assistance programs, donations

<sup>8</sup> Headcount reflects the total number of associates in our payroll systems. Full-time equivalent adjusts headcount for associates working less than 100%. All data as of December 31

<sup>9</sup> Management defined by Global Job Level Architecture and Novartis Top Leaders

<sup>10</sup> Novartis Top Leaders comprise the approximately 300 most senior managers at Novartis, including the Executive Committee of Novartis.

<sup>11</sup> A central matter applies to a senior leader or manager, potentially disruptive reputational impact, sexual harassment, discrimination, retaliation and significant financial impact.

<sup>12</sup> The number of misconduct cases reported may change year-on-year as matters may be reassessed in the course of the case lifecycle.

<sup>13</sup> The decrease in number of misconduct cases reported is due to a new risk assessment as of 2019.

<sup>14</sup> The 2020 environmental and resource data published in the Annual Report and in the Novartis in Society Report are actual data for the period from January through September, and best estimates for the period from October through December. This data will be updated with actual data in the first quarter of 2021. Significant deviations will be reported on our website and restated in next year's Annual Report.

<sup>15</sup> Data include Novartis associates and third-party personnel managed by Novartis associates.

<sup>16</sup> Scope 1: combustion and process, and vehicles; Scope 2: purchased energy



Dr. Juliet Akoth (left) shows a Butterfly iQ™ portable ultrasound device to the mother of a patient in Kitui, Kenya. Dr. Akoth enrolled in Echo for Life, a program sponsored by Novartis in partnership with the University of Nairobi to train healthcare professionals in the diagnosis and treatment of cardiovascular disease. Although heart disease is a growing problem in Kenya, many people remain undiagnosed due to a lack of healthcare infrastructure and not enough doctors with relevant expertise.



# News highlights

## JANUARY

### Announce EU approval of *Mayzent*

It treats active secondary progressive multiple sclerosis

## FEBRUARY

### Announce EU approval of *Beovu*

It treats a leading cause of vision loss that affects 20 million people worldwide

### Launch research collaboration on leishmaniasis

Novartis and the Drugs for Neglected Diseases Initiative will pursue a potential new treatment for the tropical disease

## MARCH

### Advance a broad range of initiatives in response to COVID-19

For further details, please see the section "Our response to COVID-19"

## APRIL

### Announce EU approval of *Cosentyx* for a chronic inflammatory condition

The approval for active non-radiographic axial spondyloarthritis adds to the strong position of *Cosentyx*

## MAY

### Announce FDA approval of *Tabrecta*

It is the first approved treatment for a rare and aggressive type of lung cancer

### Announce EU approval of *Zolgensma* gene therapy

It follows the launch of the treatment for spinal muscular atrophy in the US in 2019

## JUNE

### Announce five simultaneous approvals in Japan

*Tabrecta*, *Entresto*, *Mayzent*, *Energair Breezhaler* and *Atecutra Breezhaler* were all approved on the same day

### Expand sickle cell disease program to Uganda and Tanzania

We plan to expand the program, first launched in Ghana, to 10 African countries by 2022

## JULY

### Launch a not-for-profit portfolio of medicines to tackle COVID-19

The 15 medicines are available to low-income and lower-middle-income countries to help treat COVID-19 symptoms

### Introduce global flexible working policy

It significantly expands flexible working opportunities for office-based associates

### Announce EU approval of *Energair Breezhaler*

The treatment for uncontrolled asthma comes with an optional digital sensor

### Announce EU approval of *Piqray*

The treatment can improve survival for patients with advanced breast cancer

### Receive approval for CAR-T production sites in Europe

The new sites in France and Switzerland add to our production capacity for CAR-T therapies

## AUGUST

### Announce EU approval of *Cosentyx* for pediatric psoriasis

It reinforces the position of *Cosentyx* in immuno-dermatology and rheumatology

### Announce FDA approval of *Kesimpta*

It addresses an unmet need for patients with relapsing forms of multiple sclerosis

## SEPTEMBER

### Launch new access and environmental targets

They underscore our commitment to environmental, social and governance (ESG) topics

### Issue a sustainability-linked bond

It embeds key ESG targets into the core of our business

### Announce collaboration in Africa on COVID-19 supplies

We are working with the Africa Medical Supplies Platform to get critical medicines to African Union countries

## OCTOBER

### Announce EU approval of *Adakveo*

It reduces the frequency of pain crises in patients with sickle cell disease

### Expand *Kymriah* manufacturing footprint

The Japan site is the first approved commercial CAR-T manufacturing site in Asia

### Announce collaboration with Molecular Partners

We will jointly develop two DARPin® therapies designed for potential use against COVID-19

## DECEMBER

### Announce FDA approval of *Xolair* for adults with nasal polyps

Nasal polyps frequently co-occur with other respiratory conditions, such as allergies and asthma

### Announce EU approval of *Leqvio*

It reduces cholesterol in patients with a life-threatening type of heart disease

# Financial performance

Novartis delivered a solid performance in 2020,<sup>1</sup> driven by sales of key products and growth in core operating income. The results highlight the strength and resilience of our business despite the impact of the global COVID-19 pandemic on economies and healthcare systems.

Strong sales of key products continued to underpin our performance in 2020. Novartis full-year net sales were USD 48.7 billion in our continuing operations, up 3% from the prior year when measured in constant currencies (cc) to remove the impact of exchange rate movements. The COVID-19 pandemic negatively affected demand in certain therapeutic areas, most notably in dermatology and ophthalmology, as well as in our Retail Generics business.

*Entresto*, a treatment for heart failure, continued to grow strongly with sales of USD 2.5 billion, up 44% (cc), driven by increased patient share across most major markets. *Entresto* was launched in Japan in August.

*Zolgensma*, our breakthrough gene therapy for children with spinal muscular atrophy, delivered a strong performance in its first full year after launch. It registered sales of USD 920 million, driven by geographic expansion following approvals in 2020 in the EU and other markets.

*Cosentyx*, our treatment for psoriasis and other autoimmune diseases, saw continued growth despite the impact of COVID-19 in dermatology. Sales rose 13% (cc) from the prior year to USD 4.0 billion. *Cosentyx* continued to broaden its position in the market in 2020, with approvals for several new indications in the US and the EU.

Our oncology products also contributed to the solid performance. *Promacta*, a treatment for blood disorders that is known as *Revolade* outside the US, grew 23% (cc) to USD 1.7 billion. *Jakavi*, a treatment for blood disorders and cancers, grew 20% (cc) to USD 1.3 billion. *Kisqali*, a breast cancer treatment, had sales of USD 687 million, up 45% (cc).

Our newly launched products progressed well. *Tabrecta*, a lung cancer treatment, registered sales of USD 35 million. *Kesimpta*, a treatment for relapsing multiple sclerosis, had sales of USD 15 million.

Sales growth in our Sandoz Division continued to be driven by biopharmaceuticals, which increased 19% (cc) to USD 1.9 billion. Biopharmaceuticals include biosimilars, which are less expensive follow-on versions of complex biologic drugs that are being embraced by healthcare systems, particularly in Europe.

In Europe, our largest market, Novartis sales grew 4% (cc). Sales in the US rose 1%. Sales in emerging growth markets grew 6% (cc), led by a double-digit increase in China.

Operating income was USD 10.2 billion, up 19% (cc) from the prior year, mainly driven by higher sales and lower spend-

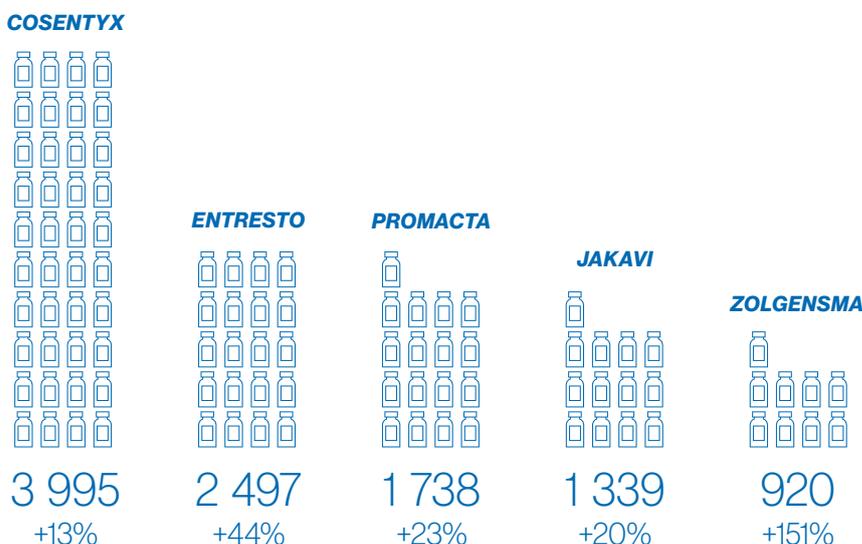
ing. Net income of USD 8.1 billion increased 20% (cc), mainly driven by operating income. Earnings per share were USD 3.55, up 21% (cc), growing faster than net income and benefiting from a lower weighted average number of shares outstanding.

To help people understand our underlying performance, we also present our core results, which exclude the impact of amortization, restructurings, acquisitions and other significant items. Core operating income of USD 15.4 billion rose 13% (cc). Core net income of USD 13.2 billion rose 12% (cc). Core earnings per share were USD 5.78, up 13% (cc). Free cash flow of USD 11.7 billion was down 10% due to payments related to legal matters and lower divestment proceeds.

For more detail on our financial performance, please see our Annual Report 2020 at [www.novartis.com/annualreport2020](http://www.novartis.com/annualreport2020)

## SELECTED GROWTH CONTRIBUTORS – INNOVATIVE MEDICINES IN 2020

(in USD millions, % growth in constant currencies)

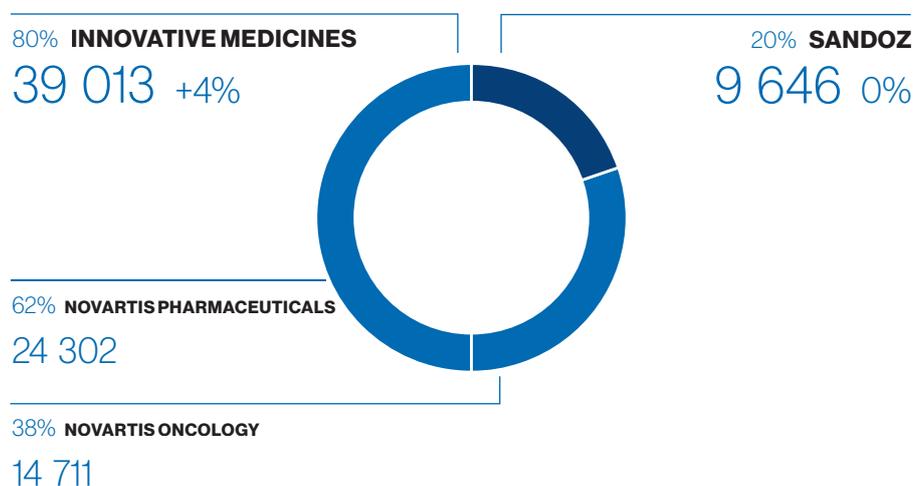


<sup>1</sup> The commentary focuses on continuing operations and excludes the performance of Alcon, which was spun off to Novartis AG shareholders on April 9, 2019.

Novartis delivered a solid performance in 2020, driven by sales of key products and growth in core operating income

### 2020 NET SALES BY DIVISION

(in USD millions, % growth in constant currencies, and divisional or business unit share of net sales)



### NET SALES FROM CONTINUING OPERATIONS

	USD millions	% growth in cc
2020	48 659	+3%
2019	47 445	+9%

### OPERATING INCOME FROM CONTINUING OPERATIONS

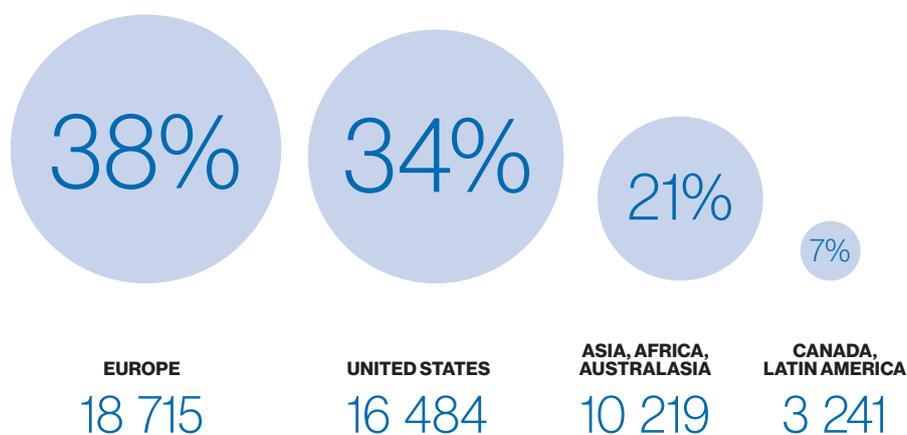
	USD millions	% growth in cc
2020	10 152	+19%
2019	9 086	+14%

### NET INCOME FROM CONTINUING OPERATIONS

	USD millions	% growth in cc
2020	8 071	+20%
2019	7 147	-41%

### 2020 NET SALES BY GEOGRAPHICAL REGION

(% of net sales and in USD millions)



### CORE OPERATING INCOME FROM CONTINUING OPERATIONS

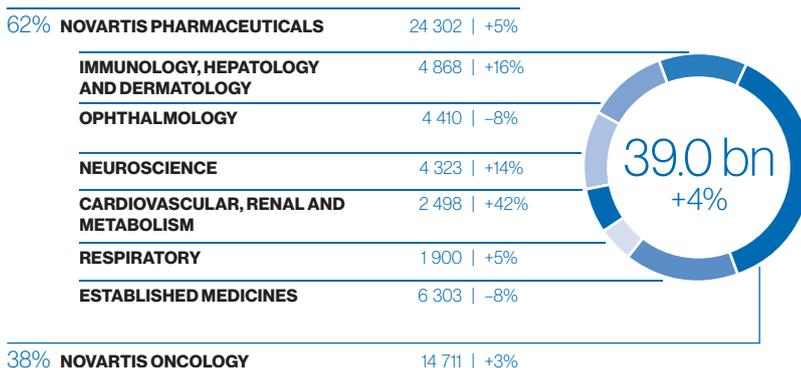
	USD millions	% growth in cc
2020	15 416	+13%
2019	14 112	+17%

### Innovative Medicines

Continued growth in sales of key products underpinned a strong performance in the Innovative Medicines (IM) Division in 2020. Net sales of USD 39.0 billion grew 4% (cc) from the prior year. The COVID-19 pandemic weighed on demand in certain therapeutic areas, most notably in dermatology and ophthalmology. The Novartis Pharmaceuticals business unit had net sales of USD 24.3 billion, up 5% (cc), driven primarily by increases for *Entresto*, a heart failure treatment; *Zolgensma*, a gene therapy that treats spinal muscular atrophy; and *Cosentyx*, a treatment for psoriasis and other autoimmune diseases. Net sales in the Novartis Oncology business unit were USD 14.7 billion, up 3% (cc) from 2019, driven by increases for *Promacta* (known as *Revolade* outside the US), *Jakavi* and *Kisqali*. Newly launched products – including *Tabrecta* and *Kesimpta* – progressed well. Overall, products that we consider our key growth drivers contributed 49% of IM net sales in 2020. Core operating income for the division was USD 13.6 billion, up 11% (cc).

### INNOVATIVE MEDICINES 2020 NET SALES BY BUSINESS UNIT AND FRANCHISE

(in USD millions, % growth in constant currencies, and business unit share of net sales)

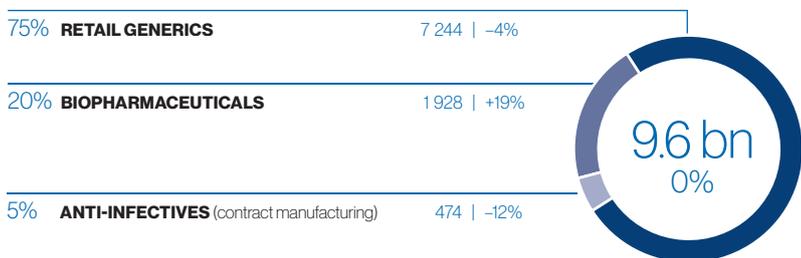


### Sandoz

Our Sandoz Division delivered a solid performance with continued margin expansion. Sales were broadly in line with the previous year at USD 9.6 billion. Globally, growth continued to be driven by sales of biopharmaceuticals, including biosimilars, which rose 19% (cc) to USD 1.9 billion. Sales in the Retail Generics business declined 4% (cc), impacted primarily by the decline of the oral solids business in the US and by COVID-19-related disruptions to hospitals and medical practices. Overall Sandoz sales in Europe rose 2% (cc). Sales in the US were down 14%. Core operating income was USD 2.3 billion, up 15% (cc), driven by continued gross margin improvement and lower spending. Sandoz played a central role in the Novartis response to COVID-19, including becoming the first company in the industry to commit to keeping stable prices for a basket of essential medicines that may help in the treatment of COVID-19.

### SANDOZ 2020 NET SALES BY FRANCHISE

(in USD millions, % growth in constant currencies, and franchise share of net sales)



# Our response to COVID-19

In the face of a global crisis, Novartis quickly mobilized research and development capabilities, medicines, clinical trial expertise and philanthropic aid to address the COVID-19 pandemic.



## Supporting our associates

We took steps to support our associates and their families as they adapted to new conditions and commitments such as working remotely, educating children at home, and caring for loved ones. We provided additional paid leave and enhanced childcare support for associates in critical roles who needed to be on site. We announced a new global policy to give office-based associates more flexibility to choose how, where and when they work.



## Clinical investigations

We played our part in the scientific effort to find treatments for COVID-19. We quickly designed and launched three Phase III, placebo-controlled trials to determine if our products could help patients with certain COVID-19-related symptoms. We provided these and other medicines to investigator-initiated trials and managed access programs upon request. We are also collaborating with Molecular Partners to develop two potential antiviral treatments for COVID-19 based on a new class of protein therapeutics known as DARPIn®.



## Access and pricing commitments

Novartis is making 15 drugs that treat key symptoms of COVID-19 available to low-income and lower-middle-income countries at zero profit until a vaccine or curative treatment is available. Our Sandoz Division is maintaining prices on a basket of essential medicines that may help in the treatment of COVID-19.



## Collaborating with partners

We are making efforts to leverage our capabilities in discovery, development and scale-up manufacturing. We are partnering with multi-stakeholder consortia, including the COVID-19 Therapeutics Accelerator, coordinated by the Bill & Melinda Gates Foundation, the Wellcome Trust and Mastercard, as well as a partnership supported by the Innovative Medicines Initiative. We are participating with the University of California, Berkeley, and other pharmaceutical companies to develop an antiviral molecule to potentially treat all coronaviruses, including the virus that causes COVID-19.



## Community funds

Novartis committed to donating up to USD 40 million to support communities around the world impacted by the pandemic. This includes the Novartis COVID-19 Response Fund and a US COVID-19 Community Response Fund, established by Novartis and the Novartis US Foundation, that will provide cash and in-kind donations for immediate response and recovery efforts related to the pandemic in the US.



Dr. Ngo Viet Quynh Tram (right) watches as a student practices the correct way to use a mask at the Hue University of Medicine and Pharmacy in central Vietnam. Dr. Tram participated in a nationwide effort to train all final-year medical students how to screen, diagnose and treat COVID-19 patients. The program was supported by the Novartis COVID-19 Response Fund.

Leo Vieira, an administrative worker and amateur athlete, exercises in Ibirapuera Park in São Paulo, Brazil, after recovering from COVID-19. Mr. Vieira was treated at the Hospital das Clínicas of the University of São Paulo, where doctors used an artificial intelligence platform to assess damage to his lungs and direct him to the appropriate level of care. The platform, developed with the support of the Novartis Foundation as well as government and civil society partners, helped more than 50 hospitals in Brazil manage patients as the pandemic surged.





## STRATEGIC PRIORITIES

# Unleash the power of our people

Unleashing the power of our people is central to fulfilling our purpose of reimagining medicine to improve and extend people's lives. We are creating an organization where people can fully apply their talent and energy at work, and where culture is a source of long-term competitive advantage.

## 45.7

The average number of hours our associates dedicated to learning in 2020, up from 35.8 hours in 2019

We are transforming our culture to ensure every employee feels inspired by our purpose, is curious about new ideas, and benefits from an unbossed environment in which leaders set clear objectives, remove obstacles and empower people to attain their goals. Our progress over the past several years helped us build resilience in the face of COVID-19. The pandemic also accelerated our transformation by connecting associates even more strongly to our purpose, creating new demands for learning, and demonstrating the benefits of empowered working.

### Inspiring purpose – sustaining performance

## 80

The engagement score (out of 100) in our Q4 associate survey, an all-time high and 7 points ahead of the industry benchmark

A strong purpose inspires our people to make their maximum contribution to Novartis and to society. In 2020, the COVID-19 pandemic brought the importance and urgency of the Novartis purpose into sharp focus, and gave employees a clear sense of the impact of their work in improving and extending people's lives. The score for engagement in our quarterly employee survey reached an all-time high of 80 (out of 100) in the fourth quarter of 2020, compared to 74 a year earlier. This was 7 points higher than the industry benchmark, and was also ahead of the benchmark for the top 20% of global companies.

## 2 700+

The number of employees who took advantage of the new Novartis parental leave guideline in 2020

Our primary concern in responding to COVID-19 was the safety of patients and employees. Preparations began as soon as the first signals emerged, and in March Novartis associates shifted to working from home whenever possible. We provided additional childcare support and paid leave for employees in critical roles who needed to be on site in laboratories or production facilities.

We also stepped up an initiative to help employees and their families maintain health and well-being, and continued to roll out mindfulness and mental health support programs. To provide reassurance in uncertain times, we committed to no COVID-19-related job losses and did not furlough our people.

The COVID-19 pandemic brought the importance and urgency of the Novartis purpose into sharp focus, and gave employees a clear sense of the impact of their work in improving and extending people's lives

The pandemic accelerated our ambition to explore new working models. In July, we announced a global policy that gives office-based associates more flexibility in how, when and where they work, supported by a USD 28 million investment in work-from-home initiatives.

In 2021, we will begin full rollout of a new approach to performance management, following a successful pilot in 2020 that involved 16 000 employees, 96% of whom were positive about the change. The new approach involves being rated as teams instead of as individuals, receiving regular feedback from colleagues in addition to managers, and receiving more coaching to improve performance. In 2021, we introduced a simpler set of behaviors to help measure performance. These focus on the individual's contribution to creating an inspired, curious and unbossed culture, as well as recognizing personal integrity.

Another important change to performance management was the rollout of Spark, an online platform that enables people to recognize outstanding behavior by colleagues. This was used by 71% of employees in 2020.

Where possible, Novartis provides benefits to all full- and part-time employees. These vary from country to country but usually include comprehensive health, well-being and retirement benefits, and generous vacation policies. In 2020, more than 2 700 employees took advantage of the company's new parental leave guideline that offers at least 14 weeks' paid leave to all new parents employed by Novartis, regardless of gender, to support the well-being of their families after the birth or adoption of a child. The guideline, announced in 2019, covers all employees worldwide as of January 2021.

The Novartis Board of Directors in 2020 approved a global Employee Share Purchase Plan covering all permanently employed Novartis associates. We aim to launch the plan in country waves over the next five years. It will give associates the option to use a percentage of their base salary to purchase Novartis shares at a discount.

## Fostering a culture of curiosity and learning

In 2020, we continued to build a culture that stimulates curiosity by providing even more learning opportunities, and by increasing the level of skills in strategic areas such as data and digital. This was the second year of our pledge to "go big on learning," involving an investment of USD 100 million over five years in addition to the regular annual

training budget of around USD 200 million. Our aspiration is for all associates to devote 100 hours a year to learning. The average was 45.7 hours in 2020, up from 35.8 hours in 2019.

The pandemic caused a significant shift in learning requirements, and we responded by expanding our offerings to meet the changing needs of employees and their families. Usage of LinkedIn Learning increased to 7 000 hours a week in May, from 1 000 hours in February, and more than 8 600 people from outside Novartis took part in the first-ever Coursera friends and family program. Novartis also donated USD 1 million to the Khan Academy, a nonprofit organization providing free online education to millions of students worldwide.

With so many people working from home, more than 14 000 employees visited a portal providing support for remote working. Employees completed more than 175 000 courses from Coursera and LinkedIn Learning covering skills such as data science, artificial intelligence and leadership resilience. In many of these areas, we were ahead of industry benchmarks. We also launched online master's degrees in data science, provided by Coursera in conjunction with the University of Michigan and the University of Illinois in the US. Novartis was the first company in the world to offer these courses free to employees.

An ongoing campaign called #wearecurious helped encourage learning, with more than 21 000 employees taking part in 215 webinars and other events during Curiosity Month in September. These totaled 60 000 hours of learning in topics such as innovation, digital skills, and access to medicines.

With so many people working from home, more than 14 000 employees visited a portal providing support for remote working

In the OurVoice survey, employees gave a score of 75 to opportunities for learning and growth, compared to 69 in 2019. The latest score was 5 points above the industry benchmark. We also conducted a separate study on the impact of learning on employee retention. The preliminary results indicated a significant correlation between voluntary learning and retention, and we aim to further study this topic in the future.

The emphasis on learning is one element in a five-year transformation of our overall talent strategy. This was launched in 2020 to ensure a proactive reskilling of the workforce, using data and analytical tools to predict the capabilities we will need in the future, and ensuring we have the best people in roles that deliver the greatest value.

## Creating unbossed leadership

Two years ago, Novartis began reimagining its approach to leadership by pursuing an unbossed approach in which self-aware leaders support their teams by setting clear goals, removing obstacles and empowering people to realize their full potential. The pandemic demonstrated the power of "unboss" as employees quickly pivoted to new priorities and new ways of working together.

Associates at a Novartis manufacturing site in Torre Annunziata, Italy. Despite challenging conditions due to the COVID-19 pandemic, the Torre team set a production record for the heart failure medicine *Entresto* in March.

45

The percentage of women in management, up from 44% a year earlier

For example, a team in Global Drug Development was flooded with requests to study Novartis compounds for efficacy against COVID-19 in so-called investigator-initiated trials (IITs). Taking the initiative, they streamlined processes and used digital technology to reduce the review time for IIT requests to 48 hours from a month.

In 2020, more than 5 000 senior leaders took part in a long-term development program called the Unbossed Leadership Experience (ULE) to enhance the capabilities they need to transform our culture. The ULE challenges leaders' assumptions and encourages them to learn about their impact on others. This ensures they are equipped to lead in an ever-changing and increasingly complex environment. The quarterly Leadership Perspectives survey showed a significant increase in self-awareness among leaders who completed the ULE, resulting in higher levels of openness and trust, and greater team effectiveness. In 2020, we converted the ULE into a fully virtual program, and the goal is to make it available to 20 000 leaders by 2023.

More than 5 000 senior leaders took part in a long-term development program called the Unbossed Leadership Experience to enhance the capabilities they need to transform our culture

## Ensuring a diverse and inclusive organization

Creating a diverse and inclusive environment is a fundamental part of our aspiration to be inspired, curious and unbossed. We embrace diverse perspectives and value inclusive behavior. Only by being themselves every day can people fully apply their talent and energy at work.

Novartis strives to adhere to the highest standards of diversity and inclusion

(D&I) in our culture and values, as embodied in the company's Code of Ethics. We believe this helps drive innovation, generates new ideas, and brings us closer to patients and other stakeholders.

In 2020, the importance of D&I was demonstrated by heightened awareness of racial disparity across many societies. To promote understanding and support our ongoing efforts toward meaningful change, we created opportunities for open dialogue on racial equity, and shared guidance and resources for additional learning. More than 4 800 people took part in an interactive global webcast to mark the African American Juneteenth celebration, followed by a Day of Reflection in September attended by 6 700 associates worldwide.

To make sure everyone feels heard, respected and valued as a member of our global community, we encourage Employee Resource Groups (ERGs) – voluntary networks linking employees who have shared backgrounds, interests, experiences and perspectives. There are now 60 such groups active across the company.

We made progress toward our United Nations Equal Pay International Coalition (EPIC) pledge to achieve gender balance in management and further improve pay equity and transparency processes by 2023. The percentage of women in overall management rose to 45% in 2020, from 44% a year earlier. Additionally, by February 2021 we will have introduced pay transparency in 16 countries, including the US and Switzerland, so employees can compare their salary to external benchmarks.

We also made progress in removing possible gender bias from our recruiting system by eliminating historical salary data when making job offers across 75% of global hiring, up from 40% in 2019. Novartis has a global median pay gap of -3.1% and a global mean pay gap of +3.6%. While we acknowledge this percentage is influenced by worldwide workforce demographics, this is significantly ahead of the Bloomberg benchmarks of +19%



median and +23% mean. Our parental leave and work-from-home initiatives are also expected to positively influence the gender pay gap by enabling employees to further balance their work and family commitments. Recognizing our progress, Novartis was again included in the Bloomberg Gender-Equality Index, a listing of companies that achieve the highest standards in measures of inclusion such as female empowerment and gender pay parity.

We made progress toward our United Nations Equal Pay International Coalition pledge to achieve gender balance in management and further improve pay equity and transparency processes by 2023

Novartis was the first major pharmaceutical company to support the United Nations LGBTI Standards of Conduct, which seek to end discrimination against lesbian, gay, bisexual, transgender and intersex (LGBTI) people in the workplace. In June, more than 3 000 Novartis

employees from 67 countries took part in Pride Month celebrating LGBTI inclusion, and we introduced sponsors to champion LGBTI awareness at senior levels.

Novartis prepares an inclusion index to measure our progress toward creating an inclusive environment that treats all employees with dignity and respect. The composite score was 74 in November 2020, up from 69 a year earlier.

Our achievements were also recognized externally. In the Refinitiv D&I Index, we were No. 1 in our industry and No. 9 overall out of more than 9 000 companies worldwide, marking the third consecutive year in the top 10. We maintained our strong position in the Dow Jones Sustainability World Index (DJSI World), which compares the environmental, social and governance (ESG) performance of leading companies, with a percentile score of 91 compared with 87 in 2019. We achieved a maximum score on DJSI's labor practice indicators and human capital development criteria. In addition, Novartis achieved sector-leading performances on human capital from MSCI and Sustainalytics, two other third-party ESG rating agencies.

## No.1

Our industry ranking in the Refinitiv D&I Index

## 91

Our percentile score in the Dow Jones Sustainability World Index (DJSI World). We achieved a maximum score on DJSI's labor practice indicators and human capital development criteria

## STRATEGIC PRIORITIES

# Deliver transformative innovation

The Novartis purpose is to reimagine medicine to improve and extend people's lives. In our pursuit of transformative treatments, we explore possibilities to cure disease, intervene earlier in chronic illnesses, and find ways to improve quality of life. Our researchers harness emerging tools and technologies – or invent new ones – to make progress in medical science for patients.

26

Approvals granted to Novartis in 2020 in the US, the EU, Japan and China for new treatments as well as new indications for existing treatments

Novartis continued to deliver transformative innovation for patients in 2020, including treatments for high cholesterol and multiple sclerosis, while advancing a strong and diverse pipeline of experimental therapies and exploring ways to battle COVID-19.

We received 26 approvals for new treatments as well as new indications for existing treatments in the US, the EU, Japan and China. These included the approval of *Kesimpta* in the US, the approval of *Leqvio* and *Zolgensma* in the EU, and the approval of new indications for *Cosentyx* in the US and the EU. In June, we received five approvals in one day in Japan. We also continued to add new molecules to our pipeline and advance key projects, with readouts from clinical studies setting the stage for further launches in 2021 and beyond.

been perceived as intractable for many years. And our Global Drug Development teams – responsible for designing and running large clinical trials – pursue projects where there is high unmet need for patients. Approximately 90% of our treatments in development have the potential to be first in class or first in a specific medical indication.

Our investment in research and development helps us identify and advance promising treatments with the potential to help millions of patients

Our leadership teams use a variety of lenses to evaluate our pipeline. We prioritize projects with the potential to transform the standard of care for patients. We assess the innovativeness of the biotechnology involved, with an eye toward applying it to other diseases. And we take access and global health into account: We aim to bring cutting-edge technology to populations around the world.

## Our approach to research and development

30+

The number of external clinical studies supported by Novartis in response to COVID-19

Novartis has an industry-leading pipeline that includes more than 40 assets in full development, including molecules that are being tested in more than one disease. Our investment in research and development (R&D) – USD 9.0 billion in 2020 – helps us identify and advance promising treatments with the potential to help millions of patients. More than 20 000 associates work in research and development at Novartis.

We're not afraid to take risks. In fact, researchers working to discover new treatments at the Novartis Institutes for BioMedical Research concentrate on drug targets and conditions that have

## Pandemic response

The scale and scope of our R&D operations provided the foundation for a robust response to the COVID-19 pandemic. As the crisis unfolded, we convened a task force to examine every molecule in our portfolio for potential treatment of patients with COVID-19 as well as to determine how to protect the integrity of ongoing clinical trials.

We quickly designed and launched three Phase III, placebo-controlled trials to test promising hypotheses. One study was stopped early due to enrollment challenges. Although the other two studies showed negative results, they helped to improve the scientific understanding of the disease. We are also collaborating with Molecular Partners to develop two potential antiviral treatments for COVID-19 based on a new class of protein therapeutics known as DARPins®.

We joined open science efforts to identify immediate solutions for COVID-19 patients and anticipate pandemics of the future

In addition, we initiated smaller placebo-controlled studies and quickly provided our compounds to the external research and medical community upon request, supporting more than 30 clinical trials as well as nearly 7 000 patients with COVID-19 via compassionate-use requests from physicians, institutions and governments.

We joined open science efforts to identify immediate solutions for COVID-19 patients and anticipate pandemics of the future. For example, we're working with researchers from the University of California, Berkeley, and other pharmaceutical companies to target a protein that's essential for coronavirus survival. The goal is to find a molecule that blocks all coronaviruses, including the virus that causes COVID-19.

## Data science and digital technologies

For the last few years, teams have been working to integrate and leverage massive amounts of data that once existed in silos at Novartis. We have hired data scientists, formed collaborations, and designed platforms and tools to aid the effort. We've also deployed cutting-edge digital technology across the organization. These are no longer pilot projects: We are taking advantage of our size and working to make the drug discovery and development process more efficient and effective.

These investments helped mitigate disruptions to our clinical trials when the pandemic struck. We were able to quickly scale up remote site monitoring and management activities to keep studies on track. More than 35 000 remote monitoring visits took place from March to the end of the year.

In parallel, we took steps to safeguard employees in critical roles who needed to be on site. Space booking tools – developed in a matter of weeks – helped associates maintain physical distancing while carrying out essential functions.

Our data scientists collaborated with experts in clinical operations to build a new tool that employs artificial intelligence and predictive analytics to anticipate COVID-19-related disruptions. It enabled teams to modify trial recruitment plans before issues arose.

A new digital recruiting platform for studies also proved useful. It leverages

social media channels to inform patients or healthcare providers about trials that may be of interest to them. Potential participants can choose to visit a website, complete a brief screening questionnaire, and be contacted by a call center for more information. By the end of the year, the full platform had generated more than 140 pre-qualified leads to sites for three clinical trials, including a pivotal Phase III study.

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We continued to advance other digital priorities despite the pandemic. For example, we convene a team of experts to evaluate and prioritize data and digital opportunities for key assets.

Take CFZ533 (iscalimab), for example, an experimental immunomodulatory therapy with the potential to make kidney and liver transplants, which are often rejected by the immune system, durable. The Novartis team proposed using an algorithm to get an early indication of the compound's effectiveness by determining the health of the transplanted organ with the goal of predicting its survival. We are collaborating with external academics to develop the algorithm using lab test and biopsy results from patients.

25+

The number of our assets in clinical development with the potential to be blockbuster medicines

## Advanced therapy platforms

A key part of our R&D strategy is to pursue new approaches to treating disease, such as by using genes and therapeutic viruses. If we prove that a new approach works for one condition, then we look for opportunities to apply it to others.

One of our leading gene therapy platforms, which employs adeno-associated viruses (AAVs), is a case in point. We use these benign viruses to deliver genes to cells inside the body. The goal is to repair them with a one-time treatment. In 2019, our AAV-based therapy *Zolgensma* was approved in the US for certain patients with a devastating neurodevelopmental disease called spinal muscular atrophy (SMA). We maintained momentum in 2020 by launching the drug in additional markets and continuing our efforts to develop an intrathecal formulation for use in older SMA patients.

We also expanded our AAV manufacturing capacity while advancing experimental AAV-based therapies for additional neurodegenerative diseases toward clinical testing. We made deals with biotechnology companies Dyno Therapeutics and Sangamo Therapeutics to explore new ways to engineer and use AAVs.

Another gene therapy platform involves a set of programmable molecular “scissors” called CRISPR. The idea is to permanently change cells by precisely snipping the DNA that’s found deep inside them. We’re developing a potential treatment for sickle cell disease with CRISPR technology licensed from Intellia Therapeutics. In 2020, patients began enrolling in a small clinical trial designed to test the treatment. It’s a gene therapy, but it’s also a cell therapy because cells are removed from the body and modified in a lab to generate the drug.

All of this work builds on our early successes with chimeric antigen receptor T-cell (CAR-T) therapy. Our flagship CAR-T therapy, *Kymriah*, was the first gene therapy approved in the US. It’s also a cell therapy: A patient’s T-cells are extracted and reprogrammed to recognize and fight cancer cells before being infused back into the body.

We’re designing new CAR-T therapies and exploring how to overcome resistance and relapse in a variety of difficult-to-treat cancers. We’re also piloting a new manufacturing platform that has the potential for higher efficiencies, shorter turnaround times and better outcomes. Our experimental treatments YTB323 and PHE885, manufactured using our innovative platform technology, recently entered clinical testing. In parallel, we’re optimizing the manufacturing process for *Kymriah*.

Another important platform is radioligand therapy, a targeted approach that has the potential to become a pillar of cancer treatment

Another important platform is radioligand therapy, a targeted approach that has the potential to become a pillar of cancer treatment. Each therapy consists of radioactive atoms that emit energy combined with molecules that can recognize and bind to specific types of cancer cells, no matter where they are in the body.

Our radioligand therapy, *Lutathera*, which is marketed by a Novartis company called Advanced Accelerator Applications, is approved for certain gastroenteropancreatic neuroendocrine tumors, which are rare. Teams are now testing the approach in more common cancers. For example, our experimental treatment <sup>177</sup>Lu-PSMA-617 is currently in a pivotal clinical trial for an advanced form of prostate cancer. We expect to report results in 2021.

90%

The percentage of our treatments in development with the potential to be first in class or first in a specific indication

We're also exploring ways to use RNA-targeting therapeutics to treat disease. These molecules recognize and initiate the degradation of mRNA, which carries instructions for protein synthesis from DNA, thereby blocking the production of specific proteins thought to be involved in causing disease. We received approval in the EU in December to market a small-interfering RNA molecule called *Leqvio* (inclisiran) for the treatment of primary hypercholesterolemia (high cholesterol) and mixed dyslipidemia. We are pursuing approval of inclisiran in the US and other markets. Three large clinical trials demonstrated that it significantly reduces LDL cholesterol in patients with the condition. Inclisiran was licensed from Alnylam Pharmaceuticals, Inc. and developed in collaboration with The Medicines Company, which Novartis acquired in early 2020.

Another example of research in this space is TQJ230 (pelacarsen), a novel experimental treatment licensed from Akcea Therapeutics. TQJ230 is an antisense oligonucleotide that targets the mRNA of apolipoprotein(a), a key component of lipoprotein(a), which is a genetically predetermined, causal and independent risk factor for atherosclerotic cardiovascular disease. It has the potential to be the first medicine approved to treat patients with elevated levels of lipoprotein(a) and established cardiovascular disease.

Finally, our researchers are exploring a new class of therapeutics called molecular glues. The cellular world is full of compounds that either lock proteins in an inhibited format or bind two protein molecules together. Such "glues" can help cells function and thrive. Novartis scientists are creating new, synthetic glues to short-circuit disease and treat serious illnesses. Four of our experimental glues have entered clinical testing for the treatment of certain cancers and immunologic and neurodegenerative diseases.

## Advancing our strong and diverse pipeline

Our focus on cutting-edge treatments for serious diseases extends to our assets in full clinical development. We are advancing more than 160 projects, including more than 25 potential blockbuster medicines.

Our mid-stage portfolio deserves particular attention, with a number of compounds that have the potential to change the course of intractable illnesses. Take osteoarthritis, which affects more than 300 million people worldwide and is the leading cause of disability in adults due to degeneration of cartilage in the joints. Existing treatments focus on relieving symptoms rather than altering the progression of the disease. LNA043, discovered in our own labs, has the potential to protect and repair cartilage in the joints of patients with osteoarthritis. We are currently testing the experimental treatment in patients with knee osteoarthritis.

Our mid-stage portfolio deserves particular attention, with a number of compounds that have the potential to change the course of intractable illnesses

Other molecules born in our labs have the potential to transform the treatment of rare diseases. For example, we're studying LMI070 (branaplam) in Huntington's disease and SMA. And LNP023 (iptacopan) is being studied in several rare complement-driven diseases, including renal diseases with limited or no treatment options that often affect young patients. We reported promising interim results from Phase II clinical trials in C3 glomerulopathy and paroxysmal nocturnal hemoglobinuria.

Our teams continually challenge treatment paradigms and build on the success of established franchises. For example, our neuroscience researchers are working to develop targeted treatments that can significantly improve outcomes for patients with multiple sclerosis, a disease that we have worked on for decades. In August, the US Food and Drug Administration approved *Kesimpta*, the first and only self-administered, targeted B-cell therapy for patients with relapsing forms of multiple sclerosis.

As compounds are approved, researchers continue to generate and vet new assets for the pipeline. For example, our scientists are studying novel anti-inflammatory compounds that block a cellular danger sensor called the inflammasome. The inflammasome is implicated in a range of common diseases, including certain cancers, heart disease, fatty liver diseases and Alzheimer's. We're harnessing and contributing to a wave of scientific innovation that is opening new avenues to creating medicines of the future.

# Selected products in development

Novartis is consistently rated as having one of the industry's most respected development pipelines, with more than 160 projects in clinical development, as of December 31, 2020. We highlight some promising programs, including new molecules and existing treatments that are under investigation for new indications.

**AVXS-201** (OAV201) is an investigational gene therapy for Rett syndrome, a rare genetic neurological disorder.

**LMI070** (branaplam) is a treatment in development for Huntington's disease, a rare, inherited neurodegenerative disease that leads to progressive disability and death. It is also in development for spinal muscular atrophy, a genetic neuromuscular disease.

**KAF156** (ganaplacide) is a treatment in development for malaria. This new class of molecules has the potential to clear infections and block parasite transmission.

**MBG453** (sabatolimab) is an investigational treatment for myelodysplastic syndrome and acute myeloid leukemia, forms of blood cancer.

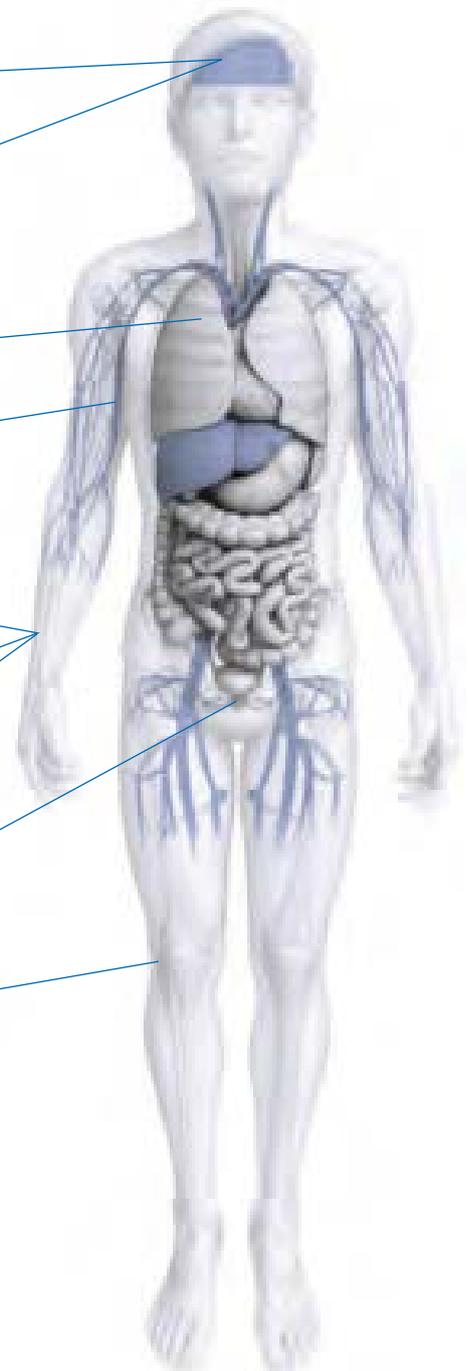
**Cosentyx** (secukinumab) is a treatment in development for various inflammatory conditions. It is approved for other inflammatory conditions such as moderate-to-severe plaque psoriasis.

**LOU064** (remibrutinib) is a treatment in development for chronic spontaneous urticaria/chronic idiopathic urticaria, a skin condition. It is also in development for an autoimmune disease called Sjogren's syndrome.

**QGE031** (ligelizumab) is an investigational treatment for chronic spontaneous urticaria/chronic idiopathic urticaria, a skin condition.

**<sup>177</sup>Lu-PSMA-617** is a radioligand therapy in development for metastatic castration-resistant prostate cancer as well as earlier forms of the disease.

**LNA043** is a treatment in development for osteoarthritis.



9.0bn

**R&D SPENDING**

Our investment in research and development in 2020, amounting to 18.5% of net sales (USD)

160+

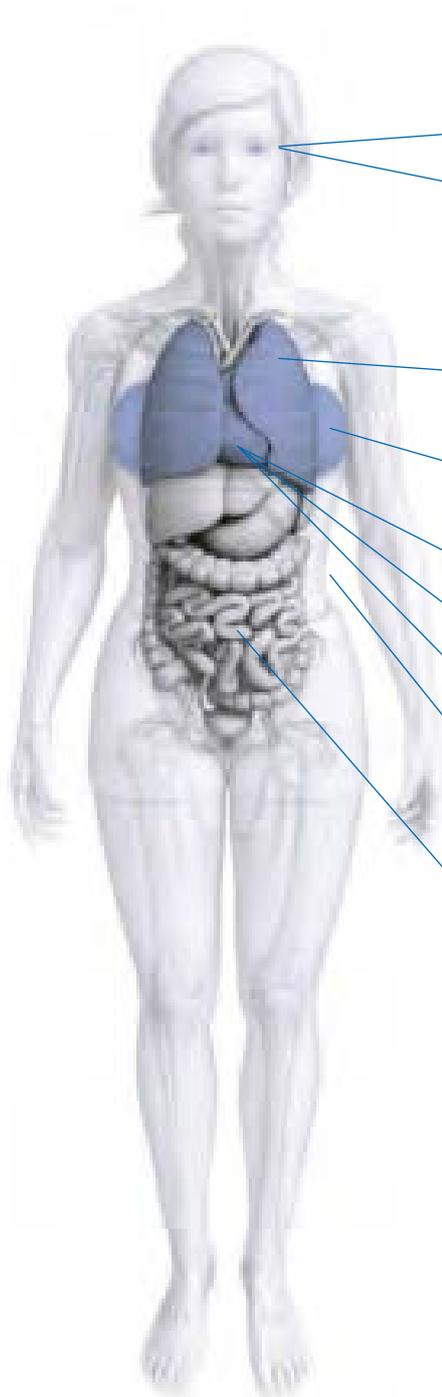
**PIPELINE PROJECTS IN CLINICAL DEVELOPMENT**

Projects with ongoing clinical trials in Phases I to III

25+

**POTENTIAL BLOCKBUSTERS**

The number of our assets in development with the potential to be blockbuster medicines



**UNR844** is an investigational treatment for presbyopia, the age-related loss of near-distance vision.

**Beovu** (brolucizumab) is a treatment in development for various eye diseases. It is approved to treat neovascular (wet) age-related macular degeneration.

**ACZ885** (canakinumab) is an antibody treatment in development for non-small cell lung cancer. ACZ885 is approved as *Ilaris* for various inflammatory conditions, including cryopyrin-associated periodic syndrome and some forms of arthritis.

**Kisqali** (ribociclib) is in development to treat hormone receptor-positive (HR+)/human epidermal growth factor receptor 2-negative (HER2-) early breast cancer as an adjuvant therapy. It is approved for patients with more advanced stages of this cancer.

**KJX839** (inclisiran, approved in the EU as *Leqvio*) is a treatment that reduces LDL cholesterol in patients with atherosclerotic cardiovascular disease. Novartis continues to study KJX839 to treat high cholesterol.

**Entresto** (sacubitril/valsartan) is a treatment in development for several cardiovascular conditions. It is approved for heart failure with reduced ejection fraction.

**TQJ230** (pelacarsen) is an investigational treatment for secondary prevention of cardiovascular events in patients with elevated levels of lipoprotein(a).

**LNPO23** (iptacopan) is a treatment in development for a kidney disease called IgA nephropathy (IgAN). It is also in development to treat other rare kidney and blood diseases.

**CFZ533** (iscalimab) is an investigational treatment for several autoimmune diseases. It is also in development to prevent graft rejection in transplant patients.

For more information about the pipeline and progress on individual development programs

[www.novartis.com/our-science/novartis-global-pipeline](https://www.novartis.com/our-science/novartis-global-pipeline)





Professor Dan Nomura of the University of California, Berkeley, in the US, joins a video conference with scientists from the Novartis Institutes for BioMedical Research and his own lab. Professor Nomura and his team are leading a collaborative scientific effort with Novartis and other pharmaceutical companies to find an antiviral molecule that blocks all coronaviruses, including the virus that causes COVID-19.

## STRATEGIC PRIORITIES

# Embrace operational excellence

We are rethinking how we work and increasing productivity to free resources that we can invest in innovation and help boost returns. Our progress in recent years helped us respond to the COVID-19 pandemic while maintaining a reliable supply of medicines for patients and advancing our data and digital strategy.

## Maintaining supply for patients

Millions of patients around the world depend on Novartis to maintain a reliable supply of medicines. Throughout the COVID-19 pandemic, our priority has been to ensure the continued supply of medicines in the face of challenges, including border closures and national lockdowns, while safeguarding the well-being of our people.

The production of medicines cannot happen virtually. As soon as the crisis began, we took steps to safeguard the health and well-being of Novartis Technical Operations (NTO) associates who needed to be on site, including introducing additional safety measures, providing childcare support and offering extra paid leave. Due to the resilience of our supply chain and the dedication of our associates, we maintained a continuous supply of medicines in 2020, producing 72 billion treatments across our global production sites – in line with the previous year – with no major disruptions to the majority of our portfolio.

Some of our associates literally went the extra mile to ensure patients received urgent treatments. Joerg Trappe, a tissue operations expert in NTO, is one example. He obtained permission from the German authorities to drive 870 kilometers from Switzerland to Berlin in April, when borders were closed, so that he could train hospital staff in how to collect and preserve a patient's cells for *Kymriah*, an individualized cancer medicine.

Associates also set up new processes to ship medicines to epicenters of the pandemic within 24 hours, and repurposed spare capacity at some sites to produce materials such as hand sanitizer, disinfectant and COVID-19 testing kits.

## Reimagining manufacturing

Despite the challenges posed by the pandemic, we continued to make progress in transforming our manufacturing capabilities to support the strategic priorities of Novartis. For example, in 2020 we received approval to produce chimeric antigen receptor T-cell (CAR-T) therapies in Switzerland, France and Japan, expanding our global CAR-T production network to seven sites worldwide and boosting our ability to supply these specialized medicines to patients.

We also continued to use digital technology to help streamline and optimize manufacturing processes. As part of our ongoing collaboration with Microsoft, we are using artificial intelligence (AI) to improve the CAR-T production process of separating plasma and T-cells from human blood and re-engineering the cells into cancer-fighting machines.

While pursuing our transformation, we maintained a focus on quality. Of 126 inspections of our facilities by health authorities around the world, all but one were found to be acceptable (99.2%). The one inspection that may require further improvement was due to increased inspection focus on our clinical activities. The final classification of this inspection is still to be determined.

## Resilience in business services

Our global Novartis Business Services (NBS) organization continued to make progress on improving efficiency and supporting our business units as they implement our strategy. These efforts have delivered approximately USD 500

# 72 bn

The number of treatments produced at Novartis production sites in 2020, in line with the previous year despite the challenges posed by COVID-19

### QUALITY FOCUS

Of 126 inspections of our facilities worldwide, 99.2% were found to be acceptable

million in savings from 2018 through 2020, helping to improve margins and increase our ability to invest in strategic areas such as research and development.

NBS also helped minimize disruptions during the COVID-19 pandemic. For example, NBS associates made sure our labs and production facilities were safe for associates who needed to be on site, including overcoming supply shortages and other challenges to secure necessary personal protective equipment.

NBS also ensured associates who could work from home were able to do so. Our IT team doubled network capacity and accelerated the rollout of Microsoft Teams to more than 100 000 associates worldwide. They supported our commercial and medical teams to engage with healthcare professionals virtually. Meanwhile, we welcomed more than 14 500 new associates to Novartis in 2020, most of whom were onboarded virtually.

The COVID-19 crisis and subsequent shift to virtual ways of working helped reduce business travel and improve environmental performance in 2020. Travel-related carbon dioxide emissions decreased by 86% in 2020 compared with the previous year, while business travel volume fell by 80%. In addition, NTO continued to improve the sustainability footprint of Novartis with regard to climate, water and waste. For more information on our environmental impact, please see the section “Build trust with society.”

The pandemic also accelerated our efforts to create a flexible working environment that inspires people to make the most impact in their roles. NBS is

supporting this shift by helping associates work remotely in a healthy and effective way, for example by providing access to corporate discounts for office furniture and other equipment, while continuing to ensure safe on-site working for associates. For more information on changing working styles at Novartis, please see the section “Unleash the power of our people.”

## Accelerating digital innovation

We continued to use data science and digital technology to spur innovation, increase efficiency, and reduce costs in production and business services. One example is SpotOn, a platform that provides real-time data insights about the performance of our manufacturing and supply chain to support data-driven decision-making. The platform, developed as part of our collaboration with Amazon, is currently live at five sites in Europe, and we aim to expand its use across our production network.

*We continued to use data science and digital technology to spur innovation, increase efficiency, and reduce costs in production and business services*

Another important focus area was the launch of a multiyear program to upgrade and consolidate our data architecture, further simplify processes, and help Novartis leverage digital technology at an even greater scale. The goal is to ensure flexibility in our core processes and systems as business models evolve.

## Strengthening product launches

With multiple planned product launches in the coming years, we are taking steps to become more consistent across markets and ensure we deploy our resources effectively. We are investing in earlier prelaunch preparations, including talking with doctors, patients and insurers to better understand their needs.

Take *Tabrecta*, for example, an oral therapy approved for patients diagnosed with an aggressive form of lung cancer called metastatic non-small cell lung cancer (mNSCLC) whose tumors have a specific genomic mutation. As we prepared for US approval and launch amid an evolving COVID-19 pandemic, we knew it would be critical to understand the challenges and concerns of patients with mNSCLC. In addition, we sought to address the needs of physicians and determine how to best inform them about the approval while acknowledging the hurdles they faced during the pandemic. Novartis sales representatives in the US used email to alert doctors to the new therapy and gave them the option to receive more information via a dedicated website or virtual meeting. The website received more than 9 000 visits in the first month.

We are also using data science to test and learn from new commercial models. For example, by employing real-time analysis of marketing data for *Enerzair Breezhaler* in Germany, we were able to target customers with personalized content, orchestrated across multiple channels. Similarly, for *Cosentyx* in the US, we used AI to optimize marketing to healthcare professionals, generating an increase in new prescriptions.

## STRATEGIC PRIORITIES

# Go big on data and digital

Harnessing the power of data science and digital technology is a core part of our ambition to reimagine medicine. We are using digital tools such as artificial intelligence (AI) to find new ways to treat disease and improve the experience of customers and patients.

## 35 000+

The number of remote monitoring visits conducted with patients enrolled in our clinical trials, reducing their chance of exposure to COVID-19

The healthcare industry reached a digital inflection point in 2020. As the COVID-19 pandemic spread, disrupting healthcare systems and economies, it forced organizations to rely on digital technology in everything from conducting research and managing clinical trials to bringing treatments to patients.

Our progress in embedding data science and digital technology across our business helped us respond to this changing environment. We minimized disruptions by quickly scaling up digital initiatives in research, development and manufacturing. We accelerated our move to new ways of engaging with healthcare professionals and patients, including our first fully digital product launch. And we continued to pursue major projects to build large-scale digital solutions across every aspect of our business.

tists and researchers can leverage data from more than 3 000 clinical trials. Backed by robust privacy controls for patient data, it enables researchers to analyze millions of health records, genomic data, adverse events and other information to generate hypotheses and test them through statistical modeling. For example, researchers can evaluate the potential benefit of a known treatment for a new disease indication using historical data. Another potential benefit involves modeling placebo effects for new experimental treatments by analyzing data from previous studies, potentially reducing the number of patients who need to receive a placebo.

For more information on how we are using data and digital in R&D, please see the section “Deliver transformative innovation.”

## 2m

The amount of data, measured in patient years, we have collected through our clinical trials. We're taking steps to make the most of this strategic asset

## How we innovate

Novartis aspires to become an industry leader in applying AI and other technologies to the challenge of discovering new medicines. We aim to streamline the research and development (R&D) process and maximize the potential of a key resource – 2 million patient years of data from two decades of clinical trials – to find more treatments and get them to patients more quickly.

The Novartis AI Innovation Lab, launched in 2019 in collaboration with Microsoft, is making progress in bolstering AI capabilities across our organization. For example, more than 300 associates and scientists are using an AI solution to unearth insights from trial data to help streamline the early manufacturing of molecules in development.

Another example is data42, a big data platform through which Novartis scien-

## How we operate

Our people quickly embraced digital ways of working as the COVID-19 pandemic began, with more than 100 000 associates worldwide using Microsoft Teams by the end of May. Our SENSE Insight Center, which monitors more than 500 clinical trials in over 70 countries in real time, enabled us to shift contingency plans as the pandemic evolved. We conducted more than 35 000 remote monitoring visits with patients enrolled in our studies, reducing their chance of exposure to COVID-19.

We are also using data science and digital technology to help increase efficiency in manufacturing and business services. As part of our partnership with Amazon, we launched a platform called SpotOn that uses AI to optimize our manufacturing and supply chain. For more information, please see the section “Embrace operational excellence.”

Our SENSE Insight Center, which monitors more than 500 clinical trials in over 70 countries in real time, enabled us to shift contingency plans as the pandemic evolved

As our transformation accelerates, we continued to hire data scientists and other technology professionals eager to use their expertise to help improve human health. Novartis research published in June showed that technology professionals increasingly see the healthcare industry as a top-rated career destination; 72% of respondents across five countries were more likely to consider working in healthcare compared with six months prior.

We are also strengthening training and governance on digital topics. In December, we launched a set of standards called the Digital Code to help practitioners innovate and scale digital programs. We continued to conduct mandatory cybersecurity training for all employees. And we established a new training and mentoring program for female associates interested in building foundational data science skills.

## Engaging with customers

We have made significant investments in digital tools to transform the way we engage with healthcare professionals. As a result, we were able to move quickly to virtual engagement with doctors during the COVID-19 pandemic.

In the six months through August, medical representatives in our Pharmaceuticals business unit experienced a more than ten-fold increase in the number of

virtual engagements with healthcare professionals across our top 11 markets compared with a year earlier. Another milestone was our first fully digital product launch following US approval of *Tabrecta*, which treats a rare and aggressive form of lung cancer. For more information on the *Tabrecta* launch, see the section “Embrace operational excellence.”

We continued to invest in personalizing our engagement with healthcare professionals, including optimizing marketing activities and tools to help improve the customer experience. ACTalya, for instance, is an AI-powered digital assistant for field-based associates that provides insights into how to optimize the content, timing and method of communications with doctors based on their individual preferences. Launched in 2018, the technology has provided millions of recommendations to more than 5 500 Novartis Pharmaceuticals associates across our 11 largest markets.

## Digital health solutions

We are focused on digital applications that provide additional value to patients and doctors. Take *Enerzair Breezhaler*, for example, a first-in-class inhaled asthma therapy that we launched in the EU and Japan in August. It includes an optional digital sensor, co-developed with Propeller Health, which provides inhalation confirmation, medication reminders, and access to objective data. Patients can share the data with their doctors to help make informed therapeutic decisions to keep their asthma under control.

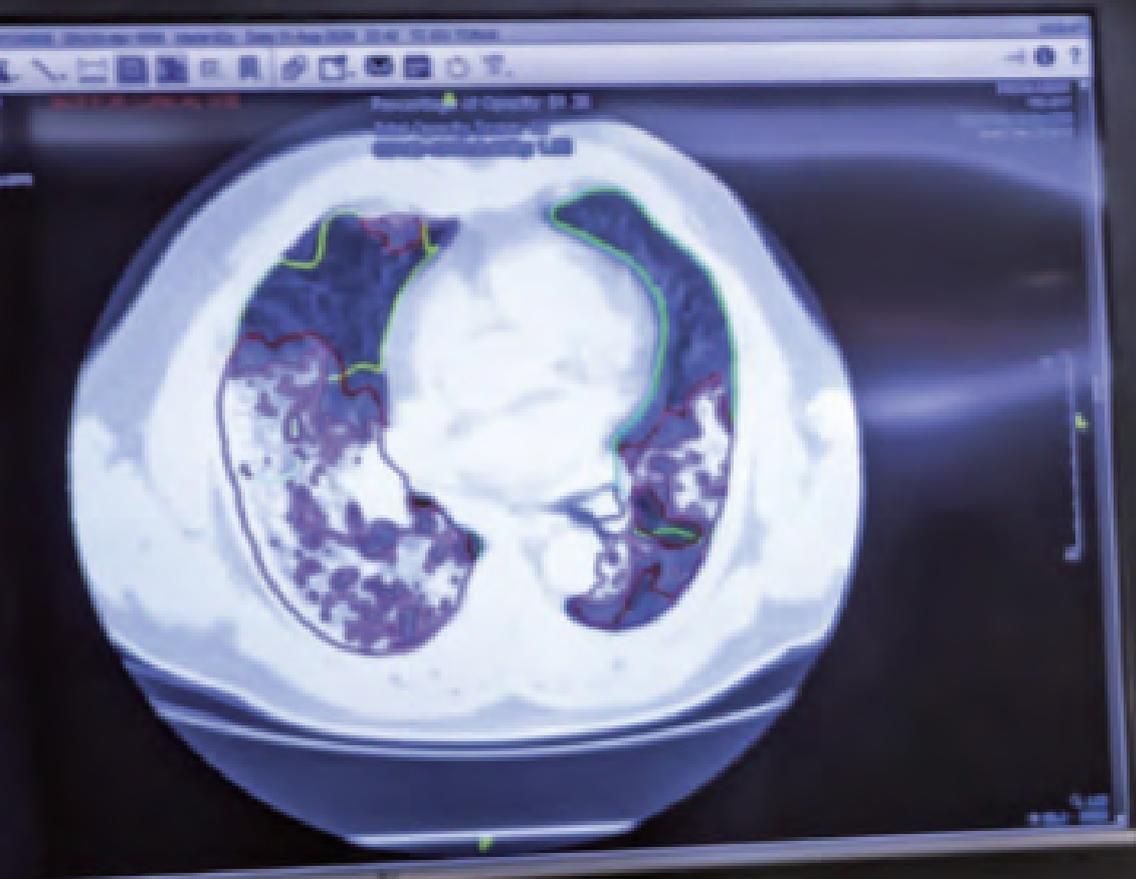
In China, we are helping shape the digital health ecosystem through our partnership with Tencent. In April, we

launched a disease management system called AI Nurse for patients with heart failure, one of the leading causes of death in China. Available through Tencent’s WeChat application, AI Nurse uses innovative technology, including an AI-enabled chatbot, to monitor health parameters and link patients to a healthcare professional who can determine if follow-up care is needed. By the end of 2020, approximately 400 hospitals and more than 20 000 patients were using AI Nurse. We plan to expand the partnership to other therapeutic areas.

We launched a disease management system called AI Nurse for patients with heart failure, one of the leading causes of death in China

We are also collaborating with Hemex Health, a startup that developed a portable and affordable diagnostic device for sickle cell disease. Using just a few drops of blood and giving a result within 10 minutes, the device has the potential to revolutionize screening and diagnosis of the disease in low- and middle-income countries. In 2020, Hemex Health rolled out the device in Ghana, where Novartis has a partnership with the government to find new ways to tackle sickle cell disease.

Hemex Health was one of the first companies to partner with the Novartis Biome, a global network of innovation hubs that works with external partners to scale digital solutions to support all aspects of our strategy. We launched new Novartis Biome hubs in India, the UK, Canada and China in 2020, bringing the total worldwide to six.





Marco Bego, chief innovation officer at the Hospital das Clinicas of the University of São Paulo, stands in front of a CT scan image. Mr. Bego and his team created an artificial intelligence platform, developed with the support of the Novartis Foundation as well as government and civil society partners, to assess lung damage in COVID-19 patients. An electrical engineer by training, Mr. Bego says he feels inspired by using his expertise to improve human health.

## STRATEGIC PRIORITIES

# Build trust with society

Novartis aspires to be the most valued and trusted medicines company in the world. We work to build trust with customers, patients, partners, associates and society more broadly. We do this by making our medicines accessible to as many people as possible and addressing priority global health issues, while embedding ethics into our business and becoming a more sustainable and responsible company.

## 40m

Committed to support local communities impacted by COVID-19 (USD)

At Novartis, we recognize that our long-term success depends on building trust with society. In 2020, we launched a new Code of Ethics, developed by our associates, to help strengthen principle-based decision-making across the company. We announced ambitious new targets for access to our medicines and issued a sustainability-linked bond to reinforce our commitment to achieving them. We also advanced our global health efforts, strengthened our environmental targets, and mobilized to support patients and communities affected by the COVID-19 pandemic. Reflecting our progress, we continued to improve our third-party environmental, social and governance (ESG) ratings performance.

We launched the Novartis COVID-19 portfolio, including 15 drugs that treat key symptoms of COVID-19, such as fever, coughing, respiratory problems and pneumonia. The medicines – including dexamethasone, which has been shown to reduce deaths in severe COVID-19 pneumonia – are made available to governments, nongovernmental organizations and other institutional customers in up to 79 eligible low-income and lower-middle-income countries at zero profit. Novartis is working with the African Union (AU), through the Africa Medical Supplies Platform, to facilitate the supply of these medicines to AU member countries.

## 3 000

Novartis associates helped create our new Code of Ethics

The following is a summary of initiatives and progress in 2020. For more details on how we build trust with society, please see the Novartis in Society ESG Report 2020.

We have committed up to USD 40 million to projects around the world to support local communities impacted by the crisis. As part of this commitment, we provided aid to dozens of countries in sub-Saharan Africa, including a USD 1 million contribution to the International Rescue Committee to support its COVID-19 response efforts for refugee populations in East Africa.

## Supporting the global COVID-19 response

We continue to support the wider public health response to the pandemic through concerted efforts to address access to essential medicines. Early in 2020, we expanded production capacity and stabilized prices for essential medicines like antibiotics. Together with the Bill & Melinda Gates Foundation and 15 other pharmaceutical companies, we committed to expand global access for COVID-19 diagnostics, therapeutics and vaccines. In addition, Novartis medicines are being studied in dozens of investigator-initiated trials around the world. For more information, please see the section “Deliver transformative innovation.”

We have committed up to USD 40 million to projects around the world to support local communities impacted by the crisis

## Holding ourselves to high ethical standards

We continued to make progress in embedding principle-based decision-making in our business interactions and helping ensure our leaders and employees act appropriately to meet society’s expectations when faced with ethical dilemmas. In September, we rolled out our new Code of Ethics

across the organization. More than 3 000 Novartis associates helped develop the new set of principles to guide ethical behavior. The code helps associates navigate ethical dilemmas by raising awareness of potential biases and the potential impact of decisions. We are rolling out a global e-training for all associates to be completed in 2021.

Novartis also resolved several legacy litigation matters in 2020, marking an important milestone on our journey to build trust with society. We reached settlements with the US Department of Justice and the US Securities and Exchange Commission, resolving all Foreign Corrupt Practices Act investigations into historical conduct by the company and its subsidiaries. We also resolved a civil suit pending in the US District Court for the Southern District of New York challenging speaker programs and other promotional events conducted from 2002 through 2011 by Novartis Pharmaceuticals Corporation in the US. As part of this settlement, Novartis will continue to evolve its approach to peer-to-peer medical education in the US by transitioning predominantly to digital formats.

## Being part of the solution on pricing and access

As a global medicines company, we believe expanding access to our medicines is an important measure of our success, and we aim to hold ourselves accountable. In September, we issued a EUR 1.85 billion sustainability-linked bond, the first of its kind in the healthcare industry, which links targets for expanding access to innovative medicines and addressing key global health challenges – two areas where we can drive the greatest value for society – to the interest rate of the bond.

By 2025, we aim to increase patient reach in low- and middle-income countries with our strategic innovative therapies by at least 200% and with our global health flagship programs in leprosy, malaria, sickle cell disease and Chagas disease by at least 50%. We estimate that achieving these targets will result in a potential reach of over 24 million patients across therapy areas.

By 2025, we aim to increase patient reach in low- and middle-income countries with our strategic innovative therapies by at least 200%

### Expanding access to innovative medicines

We are making steady progress with expanding access to our innovative therapies. For example, we have established outcome-based agreements for *Luxturna*, our breakthrough gene therapy for an inherited retinal dystrophy, whereby payment is linked to a successful outcome for each patient at an agreed milestone. In addition, we are exploring other innovative payment models such as installments and deferred payments. Early access schemes are available in markets where the therapy is not yet approved.

Our portfolio of emerging market brands (EMBs) for developing countries, which takes local affordability into account, continued to expand. We now have 118 EMBs (previously known as local brands) approved for some of our most innovative medicines across more than 50 developing markets. We reached approximately 369 000 patients with EMBs in 2020, an increase of 18% from the previous year. In addition, we continued to reduce the time lag in introducing

innovative therapies in developing countries. For example, *Piqray* for advanced breast cancer was launched in India one month ahead of the first EU country.

Our sub-Saharan Africa (SSA) organization was established to reach more patients in a region that is home to the largest underserved population in the world. We aim to double patient reach across income segments by 2022 through integrated access strategies, value-based healthcare and pricing, as well as health system strengthening initiatives. For example, in June, we joined a collaboration with the American Cancer Society and the Clinton Health Access Initiative to expand access to 20 lifesaving cancer therapies in 26 countries across SSA and Asia. Novartis is contributing with a portfolio of chemo- and hormonal therapies for breast, cervical and prostate cancers, with plans to add more therapies in the future.

### Building sustainable healthcare ecosystems

The challenge of improving access to medicine and healthcare is multifaceted and cannot be solved by any one organization alone. We collaborate with public and private partners to deliver sustainable solutions together.

In SSA, we are working with partners to build a holistic approach to improving outcomes for people with sickle cell disease. Through public-private partnerships between Novartis, ministries of health, patient groups and nongovernmental organizations, we focus on making diagnosis and treatment available, accessible and affordable for patients and their families; promoting scientific research,

training and education; and pursuing robust monitoring and evaluation of the program (please also see “Tackling global health challenges”).

Also in SSA, we have reached over 95 000 healthcare professionals across the region with an education program to strengthen the diagnosis, treatment and management of heart failure. In East Africa, together with the University of Nairobi and a local cardiovascular (CV) health clinic, we are piloting the use of handheld Butterfly iQ™ ultrasound devices to make it easier to diagnose heart failure, especially in remote areas.

For the past five years, the Novartis Foundation has been working to improve CV health in low-income urban populations, co-creating a program called Better Hearts Better Cities with local authorities and other partners. The initiative shows exciting potential to transform population-wide CV health around the world. For example, preliminary results found blood pressure control tripled in São Paulo, Brazil, and increased eightfold in Dakar, Senegal – an important outcome, since controlling blood pressure reduces the risk of CV events such as heart attacks and strokes.

As a next step, the Novartis Foundation is working with Microsoft to launch AI4BetterHearts, the first global data collaborative on CV health, which aims to use advanced analytics to better understand and manage CV health.

In September, the Novartis US Foundation announced an additional commitment of USD 15 million to develop partnerships and fund community organizations and programs that address health inequities, building on the more than USD 10 million committed to date. A key area of focus will be addressing the underrepresentation of minorities, including Black Americans, in clinical trials. Diversity in clinical trials is critical to understanding how medicines will work in all patient populations impacted by a disease.

## Tackling global health challenges

We continued to make progress across our four flagship programs – sickle cell disease, malaria, leprosy and Chagas disease – maintaining our focus on diseases with a significant impact on global health.

Sickle cell disease is recognized by the World Health Organization (WHO) as a public health priority and a neglected health problem in sub-Saharan Africa, which carries approximately 80% of the global disease burden. The Africa sickle cell disease program, launched in Ghana in November 2019, made steady progress with more than 3 400 patients being treated with hydroxyurea in 11 treatment centers across the country. We also expanded the program to East Africa with the signature of three new memoranda of understanding with the ministries of health of Uganda, Tanzania and Kenya. The program aims to reach 10 countries by 2022.

In addition to our work to help improve the standard of care for people with sickle cell disease, we are committed to expanding the reach of cutting-edge innovations to patients everywhere that need them, including in SSA. We are starting a collaboration with the Bill & Melinda Gates Foundation to explore the discovery of in vivo gene therapies for sickle cell disease, where cells are modified inside the body, which has potential to facilitate access to these advanced therapies in lower-resource settings.

For malaria, we continued to develop our industry-leading pipeline of drug candidates, including KAF156 (ganaplacide) and KAE609 (cipargamin), to address the emerging threat of resistance and support elimination. Several ongoing trials of these compounds are focused on evaluating their safety and efficacy in treating malaria in children as young as 6 months old. Meanwhile, INE963 – a fast-acting, long-lasting antimalarial that could potentially be delivered as a single-dose cure – is expected to enter clinical trials in 2021.

In March, we also announced a new collaboration with Medicines for Malaria Venture and the PAMAfrica consortium, funded by the European & Developing Countries Clinical Trials Partnership, to evaluate a new formulation of *Coartem* for infants weighing less than 5 kilograms. This is one of the most vulnerable groups affected by malaria, for whom there is currently no approved treatment. The trial is expected to start in 2021.

Novartis is spearheading leprosy elimination efforts. In January 2020, the Novartis Foundation was selected as one of the initial four partners for Microsoft’s AI for Health initiative, a five-year program to accelerate and scale up global health initiatives through the power of technology.

We continued our work to find treatments for people with Chagas disease, a potentially life-threatening tropical disease estimated to affect approximately 6 million people, primarily in Latin America. We advanced our clinical study to evaluate the safety and efficacy of heart failure drug *Entresto* in 900 patients with Chagas-related heart failure in Argentina, Brazil, Colombia and Mexico, with approximately 6% of patients already enrolled. Meanwhile, the Novartis Institute for Tropical Diseases launched a Chagas disease drug discovery program and is pursuing multiple potential therapies.

We also continued to work with health authorities and stakeholders across Latin America to support health system strengthening to tackle Chagas disease. For example, in Bolivia, we are collaborating with the Barcelona Institute for Global Health (IS Global) to enhance awareness of Chagas disease and improve the well-being of Chagas disease patients.

Novartis is focused on developing treatments for other neglected diseases such as dengue fever, a mosquito-borne disease that is listed by the WHO as among the top 10 threats to global health. Novartis is developing a compound with

the potential to be the first direct antiviral treatment for adults and children with dengue fever, and the first antiviral for prevention of dengue infection. Our dengue drug discovery program is partly funded by the Wellcome Trust.

We are also working with partners on potential new treatments for visceral leishmaniasis, a leading parasitic killer, and cryptosporidium infection, a major cause of diarrhea-associated deaths among young children in developing countries.

### Being a responsible citizen

We aim to conduct business responsibly, wherever we operate. This includes minimizing our impact on the environment and helping ensure patient health and safety.

Tackling climate change is part of our commitment to improving global health. Extreme heat and poor air quality caused by climate change threaten to exacerbate heart and respiratory diseases, among other illnesses, while rising global temperatures may increase the prevalence and geographic spread of insect-borne diseases like malaria. In 2020, we strengthened our environmental targets to aim for full carbon neutrality across our entire supply chain (Scope 1, 2 and 3) by 2030, from a previous target aiming for a 50% reduction in emissions.

Our focus on efficiency and renewables has resulted in a 19% reduction in greenhouse gas emissions against our 2016 baseline. In November, we announced five virtual power purchase agreements in Europe with three different developers covering six wind and solar energy solutions. We expect this agreement to help address our carbon footprint across our European operations over a period of 10 years from the start of operations. This agreement follows our first major wind power deal in Santa Rita East, Texas, which currently addresses all the electricity bought for our operations in the US and Canada.

We also continued to make significant progress on water and waste reduction in 2020. We achieved a 35% reduction in water consumption and a 36% reduction in waste disposal compared with our 2016 baseline year.

We signed the CEO Water Mandate, an initiative of the UN Global Compact aimed at mobilizing business leaders to address global water challenges through water stewardship. We also joined PREMIER, a new six-year project with the Innovative Medicines Initiative focused on evaluating and mitigating the risk of medicines in the environment. The project aims to deliver an innovative framework for characterizing the environmental risks of active pharmaceutical ingredients, which can ultimately be used to explore and promote greener drug design and manufacturing.

Being a responsible citizen also means prioritizing the health and safety of patients. We take a holistic approach to preventing harm caused by falsified medicines using data analytics and technologies in spectrometry, packaging and printing machinery, and mobile apps. In 2020, our monitoring efforts led to 68 online investigations and the removal of more than 13 900 illegal product listings.

While pandemic lockdowns strained enforcement capabilities, we maintained close collaboration with international agencies, including Europol, Interpol, the World Customs Organization and the Pharmaceutical Security Institute. We investigated 247 incidents of suspected falsified medicines, which led to 60 successful enforcement actions and the seizure of 1.7 million medicines (unit dosage forms) by law enforcement and health authorities.

For more information

 [Novartis in Society ESG Report 2020](#)

 [Corporate responsibility section of our website](#)

 [Transparency and disclosure section of our website](#)

### ENVIRONMENTAL TARGETS

#### Carbon neutral across entire supply chain by 2030



19% reduction in greenhouse gas emissions in 2020 vs. 2016 baseline

#### Water neutral in all areas by 2030



35% reduction in water consumption in 2020 vs. 2016 baseline

#### Plastic neutral by 2030



60% reduction in single-use plastics in the workplace in 2020 vs. 2016 baseline

# CONSULTATION ROOM 4A





KEEP DISTANCE  
WEKA NAFASI  
KATI KATI.  
MWINA THENG'ANI.

Dr. Juliet Akoth (seated) calls a patient to a consultation room at Kitui Hospital, Kenya. Dr. Akoth enrolled in Echo for Life, a training program sponsored by Novartis in partnership with the University of Nairobi. Kitui Hospital has reduced waiting times for cardiograms and increased diagnosis of cardiovascular diseases.

# Our corporate governance approach

We strive to manage our company in a way that creates long-term value for all our stakeholders. Our corporate governance framework supports our ability to deliver sustainable value creation for our shareholders, patients, customers, suppliers and society at large.

## Our corporate governance framework

Novartis operates under a corporate governance framework designed to establish effective checks and balances in the management of our company:

### GENERAL MEETING OF SHAREHOLDERS

Shareholders vote to approve Group consolidated financial statements and other financial information, decide the dividend, and approve the compensation of the Board and Executive Committee. They also elect the Chairman, Board members, Compensation Committee members, Independent Proxy and external auditor.

### BOARD OF DIRECTORS

The Board holds the ultimate decision-making authority for Novartis AG, with the exception of decisions reserved for shareholders. All Board members, including the Chairman, are independent and non-executive. The Board's effectiveness is enhanced by its diversity, as reflected in nationality, gender, ethnicity, experience, age and tenure. Diversity is an important criterion when identifying new Board member candidates. Among its responsibilities, the Board defines the strategic direction of Novartis; reviews and approves major mergers, acquisitions and divestments; engages in risk and crisis management; and oversees succession planning for the CEO and other members of senior management. The Board exercises some of its responsibilities through the following committees:

#### AUDIT AND COMPLIANCE COMMITTEE

Assists the Board with monitoring the integrity of the Group financial statements, and the company's compliance with relevant legal and regulatory requirements

#### COMPENSATION COMMITTEE

Assists the Board with defining the compensation strategy, as well as the compensation of the Chairman, other Board members and the CEO

#### GOVERNANCE, NOMINATION AND CORPORATE RESPONSIBILITIES COMMITTEE

Assists the Board with overseeing governance and corporate responsibility activities, as well as identifying candidates for the Chairman, other Board members and the CEO

#### RISK COMMITTEE

Assists the Board with ensuring that risks are properly assessed and managed, oversees the company's risk portfolio and risk management system, and reviews related actions implemented by management

#### SCIENCE & TECHNOLOGY COMMITTEE

Assists the Board with oversight and evaluation of the performance of scientific, technological, and research and development activities

### EXTERNAL AUDITOR

The external auditor provides their opinion on the compliance of Novartis Group consolidated statements and other financial information, the Compensation Report, internal controls over financial reporting, and corporate responsibility reporting, with applicable standards and laws.

### EXECUTIVE COMMITTEE

The Board delegates the operational management of Novartis to the Executive Committee. Under the leadership of the CEO, the Executive Committee assumes overall responsibility for and oversight of the business, including achieving financial and strategic objectives, and advancing a culture of empowerment and responsibility at the company. The CEO regularly informs the Board of current developments, and Executive Committee members regularly attend Board meetings to discuss specific topics. Board members have access to the minutes of Executive Committee meetings.

## Board highlights in 2020

The Board met 10 times in 2020. This includes regular meetings in January, April, June, August, October and December, and additional special meetings to deal with ad hoc matters. Board committees typically meet the day before the meetings of the full Board. In response to the COVID-19 pandemic, the Board seamlessly moved to virtual meetings as of April 2020.

The Board and its committees continued to focus on the company's progress against its five strategic priorities while also overseeing the response to COVID-19. The Novartis response to the pandemic included the decision to make 15 drugs that treat key symptoms of COVID-19 available to low-income and lower-middle-income countries at zero profit, as well as the creation of donation funds worth up to USD 40 million to support communities impacted by the pandemic.

As the pandemic spread, the Board monitored the adoption of a new working model for office-based associates, called Choice with Responsibility, which addresses the need for flexibility in working arrangements while seeking to maintain business performance. More broadly, the Board continued to focus on the Novartis culture transformation as a determinant of long-term performance, including the progress of an unbossed training program for leaders.

The pandemic accelerated the ongoing digital transformation at Novartis, as the company rapidly scaled up the use of data science and digital technology in areas including research and development (R&D), production and customer engagement. The Board monitored is-

suues associated with this transformation, including data quality and governance. The Risk Committee evaluated risks and opportunities associated with data and digital, and received updates on cybersecurity. Meanwhile, the Science & Technology Committee, which expanded its scope in 2020 to include digital technology, also reviewed progress on the data and digital strategy.

The Board received an update on the ongoing transformation programs in Novartis Technical Operations and Novartis Business Services, which play a central role in the company's strategy to improve operational excellence.

[The Board and its committees continued to focus on the company's progress against its five strategic priorities while also overseeing the response to COVID-19](#)

On the R&D front, the Science & Technology Committee reviewed the Novartis pipeline and the productivity of the company's R&D operations. It discussed, among other areas, the cardiovascular, renal and metabolism; ophthalmology; and hematology portfolios.

Building trust with society remains an important focus area for the Board and its committees. In 2020, Novartis continued to integrate environmental, social and governance (ESG) criteria into the core of its operations. The Governance, Nomination and Corporate Responsibilities Committee (GNCRC) reviewed access-to-medicine and global health targets announced in September, as well as the issuance of a sustainability-

linked bond. The Board received an update on the company's improved performance in external ESG ratings. The Risk Committee, meanwhile, reviewed the company's Third-Party Risk Management program.

The Board also took decisions related to corporate governance in 2020. It approved the creation of a Lead Independent Director role and agreed to propose to shareholders at the 2021 Annual General Meeting (AGM) an amendment to the Articles of Incorporation that for future re-elections would replace the current age limit with a term limit of 12 years. The Audit and Compliance Committee led a fair, transparent and balanced tender process for the selection of an external audit firm, which it plans to propose to shareholders for election at the 2022 AGM.

Last year, Novartis disclosed its aspiration to find female candidates for two of the next three nominations. At the 2020 AGM, the Board welcomed its fourth female member, Bridgette Heller. Compared to last year, the female representation on the Board rose to 29% from 25%. The GNCRC is focused on achieving even greater diversity when identifying new Board member candidates and aims to further increase the number of women on the Board.

To help it discharge its duties, the Board continued to receive regular briefings and training on relevant topics. In 2020, each Board member completed training courses on data privacy; the new Novartis Code of Ethics; and the company's ethical commitments on anti-bribery, antitrust and fair competition, insider trading and third-party risk management.

# Our Board of Directors



**Joerg Reinhardt, Ph.D.**

Chairman  
German



**Enrico Vanni, Ph.D.**

Vice Chairman, Lead Independent  
Director since January 1, 2021  
Swiss



**Nancy C. Andrews, M.D.,  
Ph.D.**

American/Swiss



**Ton Buechner**

Dutch/Swiss



**Patrice Bula**

Swiss



**Srikant Datar, Ph.D.**

American



**Elizabeth (Liz) Doherty**

British



**Ann Fudge**

American



**Bridgette Heller**

American



**Frans van Houten**

Dutch



**Simon Moroney, D.Phil.**

German/New Zealander



**Andreas von Planta, Ph.D.**

Swiss



**Charles L. Sawyers, M.D.**

American



**William T. Winters**

British/American

For CVs of our Board members

[www.novartis.com/BoD](http://www.novartis.com/BoD)

Audit and Compliance Committee	Compensation Committee	Governance, Nomination and Corporate Responsibilities Committee	Risk Committee	Science & Technology Committee
E. Doherty (Chair)	E. Vanni (Chair)	A. von Planta (Chair)	S. Datar (Chair)	J. Reinhardt (Chair)
T. Buechner	P. Bula	A. Fudge	N. Andrews	N. Andrews
S. Datar	S. Datar	C. Sawyers	T. Buechner	A. Fudge
A. von Planta	B. Heller	E. Vanni	E. Doherty	F. van Houten
E. Vanni	W. Winters	W. Winters	A. von Planta	S. Moroney
				C. Sawyers

# Our Executive Committee



**Vasant (Vas) Narasimhan, M.D.**

Chief Executive Officer  
*American*



**Steven Baert**

Chief People & Organization Officer  
*Belgian*



**Bertrand Bodson<sup>1</sup>**

Chief Digital Officer  
*Belgian*



**James (Jay) Bradner, M.D.**

President of the Novartis Institutes  
for BioMedical Research (NIBR)  
*American*



**Harry Kirsch**

Chief Financial Officer  
*German/Swiss*



**Shannon Thyme Klinger**

Chief Legal Officer  
*American*



**Steffen Lang, Ph.D.**

Global Head of Novartis Technical  
Operations (NTO)  
*German/Swiss*



**Klaus Moosmayer, Ph.D.**

Chief Ethics, Risk &  
Compliance Officer  
*German*



**Richard Saynor**

Chief Executive Officer of Sandoz  
*British*



**Susanne Schaffert, Ph.D.**

President of Novartis Oncology  
*German*



**John Tsai, M.D.**

Head of Global Drug Development  
and Chief Medical Officer  
*American*



**Marie-France Tschudin**

President of Novartis  
Pharmaceuticals  
*Swiss*



**Robert Weltevreden<sup>1</sup>**

Head of Novartis Business  
Services (NBS)  
*Dutch*

For CVs of our ECN members and other members of senior management

 [www.novartis.com/ECN](http://www.novartis.com/ECN)

<sup>1</sup> Effective February 1, 2021, the Digital function will be merged with NBS to form a new Customer & Technology Solutions (CTS) unit, which Mr. Weltevreden has been appointed to lead. Mr. Bodson will step down from the Executive Committee on February 1, 2021.

## Novartis AG and Novartis shares

Novartis AG, the Group's holding company, is a corporation organized under Swiss law with its registered office in Basel, Switzerland.

Novartis shares are listed on the SIX Swiss Exchange (symbol: NOVN) and the New York Stock Exchange (symbol: NVS). The latter are in the form of American depositary receipts representing Novartis American depositary shares.

## Shareholder rights

Shareholders have the right to vote and to execute all other rights as granted under Swiss law and the Articles of Incorporation. All shares have equal voting rights and carry equal entitlements to dividends. The AGM usually takes place in late February/early March. Normally, shareholders can vote their shares by themselves or appoint another shareholder or the Independent Proxy to vote on their behalf. However, in accordance with Swiss legislation passed in response to the COVID-19 pandemic, the Board has decided that voting rights at our 2021 AGM can only be exercised through the Independent Proxy. It will not be possible to physically attend our 2021 AGM.

## Shareholder engagement

Shareholder engagement is fundamental to our commitment to governance and transparency. The feedback we receive during these engagements helps us create long-term and sustainable value.

We concentrate our outreach efforts on our largest 100 shareholders – portfolio managers, buy-side professionals, stewardship teams and ESG analysts – who represent 60% of our ownership. While the Chairman, CEO and CFO together with Investor Relations are accountable for ensuring effective shareholder engagement, other senior managers from within and outside the Executive Committee also participate in the meetings. We conduct regular outreach to investors throughout the year.

### We held our first ESG roadshows in France, the US and Switzerland

We appreciate the value that shareholders attach to ESG matters. We will continue to integrate ESG into our strategy and to promote transparency through our ESG engagement program. We have more than doubled the number of

investor engagements on ESG matters in recent years. In 2020, our CEO led our ESG Investor Day for the second time (marking our seventh dedicated ESG event for investors since 2014). We also held our second ESG roadshow in the Netherlands, and our first ESG roadshows in France, the US and Switzerland. For more details on our ESG approach and performance, please see the Novartis in Society ESG Report 2020.

More information on our corporate governance is provided in the Annual Report 2020.

 [www.novartis.com/annualreport2020](http://www.novartis.com/annualreport2020)

## Website information

Topic	Information
<b>Share capital</b>	Articles of Incorporation of Novartis AG <a href="http://www.novartis.com/investors/company-overview/corporate-governance">www.novartis.com/investors/company-overview/corporate-governance</a> Novartis key share data <a href="http://www.novartis.com/key-share-data">www.novartis.com/key-share-data</a>
<b>Shareholder rights</b>	Articles of Incorporation of Novartis AG <a href="http://www.novartis.com/investors/company-overview/corporate-governance">www.novartis.com/investors/company-overview/corporate-governance</a>
<b>Annual General Meeting of Shareholders</b>	Annual General Meeting of Shareholders <a href="http://www.novartis.com/investors/shareholder-information/annual-general-meeting">www.novartis.com/investors/shareholder-information/annual-general-meeting</a>
<b>Board Regulations</b>	Board Regulations <a href="http://www.novartis.com/investors/company-overview/corporate-governance">www.novartis.com/investors/company-overview/corporate-governance</a>
<b>Novartis code for senior financial officers</b>	Novartis Code of Ethical Conduct for CEO and Senior Financial Officers <a href="http://www.novartis.com/investors/company-overview/corporate-governance">www.novartis.com/investors/company-overview/corporate-governance</a>
<b>Novartis in Society ESG Report</b>	Novartis in Society ESG Report <a href="http://www.novartis.com/nisreport2020">www.novartis.com/nisreport2020</a>
<b>Novartis financial data</b>	Novartis financial data <a href="http://www.novartis.com/investors/financial-data">www.novartis.com/investors/financial-data</a>
<b>Press releases</b>	Press releases <a href="http://www.novartis.com/news/news-archive?type=press_release">www.novartis.com/news/news-archive?type=press_release</a> Free email service <a href="http://www.novartis.com/news/stay-up-to-date">www.novartis.com/news/stay-up-to-date</a>
<b>Additional information (including Novartis investors event calendar, registered office, contact and email addresses, phone numbers, etc.)</b>	Novartis Investor Relations <a href="http://www.novartis.com/investors">www.novartis.com/investors</a>

# Compensation Report

## summary

Novartis delivered a solid performance in 2020 as we continue our transformation into a leading, focused medicines company powered by advanced therapy platforms and data science. Feedback from shareholder engagement prior to our last Annual General Meeting and toward the end of 2020 suggested that shareholders were in agreement that our current compensation system is aligned with the company's purpose, strategy and culture. No changes are therefore proposed for 2021.

### 2020 financial performance

Financial performance in 2020 was solid despite the impact of the global pandemic. Net sales to third parties for Novartis continuing operations grew 3% in reported terms and 3% measured in constant currencies (cc), which removes the impact of exchange rate movements. Growth was mainly driven by *Cosentyx* (USD 4.0 billion in sales), *Entresto* (USD 2.5 billion), *Promacta/Revolade* (USD 1.7 billion), and *Zolgensma* (USD 0.9 billion). Other recently launched products, including *Kisqali*, *Piqray* and *Kymriah*, also contributed. However, this was below our ambitious net sales plan, as COVID-19 weighed on certain therapeutic areas, most notably dermatology and ophthalmology, and the Sandoz Retail Generics business. The safety updates on *Beovu* also impacted the business.

Operating income grew 19% versus the prior year (cc), and net income grew 20% versus the prior year (cc). Core operating income grew 13% versus the prior year (cc), exceeding the target, driven by improved productivity in marketing and sales as well as research and development, and Novartis Technical Operations (NTO) network transformation initiatives. Core operating income margin increased to 31.7% (+2.8 percentage points cc versus the prior year, and +1.5 percentage points cc versus target), with Innovative Medicines core margin reaching 35%.

Free cash flow amounted to USD 11.7 billion. The target, as a percentage of sales, was slightly overachieved due to continued strong cash collection despite higher legal fee payouts.

### 2020 strategic performance

Within the CEO's strategic objectives, we continue to integrate environmental, social and governance (ESG), a priority for the Novartis Board of Directors and the Executive Committee, across our operations. Novartis focuses on four strategic ESG pillars: ethical standards, pricing and access, global health challenges and corporate citizenship. Great progress was made across all areas, including the environment, patient reach in low- and middle-income countries, diversity and inclusion, and our approach to ethics. We also issued the first sustainability-linked bond of its kind in the healthcare industry.

In response to the pandemic, we increased our focus on associates' health and well-being by implementing a number of support programs. No government assistance (e.g., subsidies, furloughs) was sought by the company, and no COVID-19-related associate redundancies were made. To help tackle the issues caused by the pandemic directly, Novartis also made a number of commitments, collaborating with healthcare peers and other organizations on anti-COVID-19 programs, including the rollout of treatments to the developing world.

### 2020 CEO realized compensation

Having assessed financial and strategic performance, the Board of Directors determined that no adjustments were required to the incentive payouts. Overall, the Board determined that the CEO will be awarded a 2020 Annual Incentive of CHF 2 636 550, which is 100% of target, within the payout range of 0% to 200%. The 2018-2020 Long-Term Incentive (LTI) plans comprise the Long-Term Performance Plan (LTPP) and the Long-Term Relative Performance Plan (LTRPP). The 2018-2020 LTPP delivered strong results. The Cash Value Added target – which has continued to increase for the last three cycles – was exceeded, and innovation was above target. For the 2018-2020 LTRPP, Novartis was above median, ranking No. 7 out of a total of 15 global healthcare peers (including Novartis) on three-year relative total shareholder return (TSR). Overall, when considering both plans, the Board of Directors awarded the CEO a total LTI

payout of CHF 8 054 923, corresponding to a 126% payout against a maximum of 200%.

No Annual Incentive or LTI targets were adjusted as a result of the pandemic.

These incentive performance outcomes, combined with base salary and other benefits, pension, Alcon Keep Whole awards and dividend equivalents, resulted in 2020 total realized compensation for the CEO of CHF 12 724 166. The higher total realized compensation for the CEO compared to 2019 can be largely attributed to the vesting of his first LTI granted after his promotion to CEO in 2018, which was partly offset by the lower performance incentive payouts for cycles ending in 2020.

## Current Executive Committee compensation system

	2020 fixed pay and benefits		Performance-related variable pay		
	Annual base salary	Pension and other benefits	2020 Annual Incentive	Long-Term Incentive awards cycle 2018-2020	
				LTPP <sup>1</sup>	LTRPP <sup>2</sup>
<b>Purpose</b>	Reflects responsibilities, experience and skill sets	Provides retirement and risk insurances (tailored to local market practices/regulations)	Rewards for performance against short-term financial and strategic objectives, and Values and Behaviors	Rewards long-term shareholder value creation and innovation in line with our strategy	
<b>Form of payment</b>	Cash	Country/individual-specific and aligned with other employees	50% cash 50% equity <sup>3</sup> deferred for three years	Equity, vesting following a three-year performance period	
<b>Performance measures</b>	-	-	Balanced scorecard comprising: • Financial measures (60%) • Strategic objectives <sup>4</sup> (40%)	• Novartis Cash Value Added (75%) • Innovation milestones (25%)	• Relative TSR versus global sector peers (100%) <sup>5</sup>

<sup>1</sup> LTPP = Long-Term Performance Plan

<sup>2</sup> LTRPP = Long-Term Relative Performance Plan

<sup>3</sup> Executive Committee members may elect to receive more of their Annual Incentive in equity instead of cash.

<sup>4</sup> Strategic objectives are aligned with the five strategic pillars: innovation, operational excellence, data and digital, people and culture, and building trust with society.

<sup>5</sup> For the 2018-2020 performance cycle, the peer group comprises 15 global healthcare companies, including Novartis.

The 2018-2020 cycle will be the last vesting of the LTRPP plan, which was discontinued as of grants made in 2019. The LTPP metrics were subsequently transformed into four equally weighted measures: net sales compound annual growth rate, core operating income compound annual growth rate, innovation and relative TSR.

## Alignment with company strategy

Our strategy is to build a leading, focused medicines company powered by advanced therapy platforms and data science. We foster a company culture that is inspired, curious and unbossed. We believe these elements drive continued innovation and will support the creation of value over the long term for our company, society and shareholders. To align the compensation system with this strategy and to ensure that Novartis is a high-performing organiza-

tion, the company operates both a short-term Annual Incentive and an LTI plan with a balanced set of measures and targets. The Board of Directors determines specific, measurable and time-bound performance measures for the Annual Incentive and LTI plan. The Compensation Committee has reviewed the existing compensation system and determined that it continues to support our strategy.

## Executive Committee compensation governance

A summary of the compensation decision authorization levels within the parameters set by the Annual General Meeting (AGM) is shown below, along with an overview of the risk management principles.

### Decision on

Compensation of CEO
Compensation of other Executive Committee members

### Decision-making authority

Board of Directors
Compensation Committee

## Executive Committee compensation risk management principles

- Rigorous performance management process
- Balanced mix of short-term and long-term variable compensation elements
- Performance evaluation under the Annual Incentive includes an individual balanced scorecard
- Performance-based Long-Term Incentives, with three-year cycles
- All variable compensation is capped at 200% of target
- Contractual notice period of 12 months
- Post-contractual non-compete period limited to a maximum of 12 months from the end of employment. Resulting compensation is limited to the annual base salary plus prior-year Annual Incentive as per contract, if applicable
- Good and bad leaver provisions apply to the variable compensation of leavers
- No severance payments or change-of-control clauses
- Clawback and malus principles apply to all elements of variable compensation
- Share ownership requirements; no hedging or pledging of Novartis share ownership position

## 2020 CEO pay for performance – outcomes

Measure	Target <sup>1</sup>	Achievement versus target
<b>2020 ANNUAL INCENTIVE</b>		
<b>Financial measures – 60% of total Annual Incentive, comprising:</b>		
Group net sales (cc) (30%)	USD 50 781 million	Below
Group operating income (cc) (30%)	USD 9 745 million	Significantly above
Group free cash flow as a % of sales (cc) (20%)	24.3%	Above
Share of peers for Novartis Group (USD) (20%)	8.3%	Met
<b>Overall assessment of Group financial targets in constant currencies</b>		<b>Met</b>
<small>1 For performance evaluation purposes, target as well as actual financial KPIs included the results of the Sandoz US dermatology business and generic oral solids portfolio, which were expected to be divested to Aurobindo Pharma USA Inc. This deal was later terminated by mutual agreement with Aurobindo.</small>		
<b>Strategic objectives – 40% of total Annual Incentive, comprising:</b>		
Innovation (20%)		Met
Operational excellence (20%)		Met
Data and digital (20%)		Met
People and culture (including Values and Behaviors) (20%)		Met
Building trust with society (including access to healthcare, reputation and other ESG topics) (20%)		Significantly above
<b>Overall assessment of strategic objectives</b>		<b>Met</b>
<b>Overall assessment of CEO balanced scorecard</b>		<b>Met</b>
<b>TOTAL Annual Incentive:</b>	<b>100% of target (payout range 0% – 200%)</b>	

### 2018-2020 LONG-TERM INCENTIVES

<b>Long-Term Performance Plan (LTPP)</b>		
Novartis Cash Value Added (cc) (75%)	USD 8.3 billion	Above
Key innovation milestones (25%)		Above
<b>TOTAL LTPP<sup>1</sup>:</b>	<b>143% of target (payout range 0% – 200%)</b>	
<b>Long-Term Relative Performance Plan (LTRPP)</b>		
Relative TSR against a global healthcare peer group (USD)		Above median
<b>TOTAL LTRPP<sup>1</sup>:</b>	<b>100% of target (payout range 0% – 200%)</b>	

1 Combined LTI payout is 126% of target.

## 2020 total realized compensation for the CEO

The 2020 total realized compensation for the CEO was CHF 12 724 166, and includes the payouts of the Annual Incentive, LTPP and LTRPP based on actual performance assessed for cycles concluding in 2020.

CHF	Fixed pay and benefits		Variable pay performance-related			Total realized compensation
	Annual base salary <sup>1</sup>	Pension and other benefits	2020 Annual Incentive	LTPP 2018-2020 <sup>1</sup>	LTRPP 2018-2020	
Vasant Narasimhan	1 743 750	288 943	2 636 550	5 605 100	2 449 823	<b>12 724 166</b>

1 The shown amounts represent the underlying share value of the total number of shares vested (including dividend equivalents of CHF 660 900 and Alcon Keep Whole awards of 784 497) to the CEO for the LTPP and LTRPP performance cycle 2018-2020.

## 2020 Board of Directors compensation

All fees to Board members are delivered at least 50% in equity and the remainder in cash. Board members receive no variable or performance-based compensation, no share options, and no additional fees for attending meetings. Board members do not receive any company pension or insurance benefits.

CHF 000	2020-2021 AGM, annual fee
Compensation of Chairman	3 800
Board membership	280
Vice Chairman	50
Chair of the Audit and Compliance Committee	130
Chair of the Compensation Committee	90
Chair of the following committees: • Governance, Nomination and Corporate Responsibilities Committee • Science & Technology Committee • Risk Committee	70
Membership of the Audit and Compliance Committee	70
Membership of the following committees: • Compensation Committee • Governance, Nomination and Corporate Responsibilities Committee • Science & Technology Committee • Risk Committee	40

Total actual compensation earned by Board members in the 2020 financial year was CHF 3 804 501 for the Chairman of the Board and CHF 4 924 947 for the other 13 members of the Board.

## Shareholder votes on compensation at the 2021 AGM

In line with our Articles of Incorporation, at the 2021 AGM, shareholders will be asked to approve the maximum aggregate amount of compensation for the members of the Executive Committee of CHF 91 million. This is lower than 2020 due to a reduction from 13 to 12 members. For the Board of Directors, the maximum aggregate amount

proposed to shareholders is CHF 8.6 million, which is lower than last year due to a reduction from 14 to 13 members. Full details on compensation for the CEO, other Executive Committee members and Board members can be found in the Compensation Report of our Annual Report 2020, and in the compensation votes at the 2021 AGM.

## Novartis annual reporting suite

### Annual Report and US Securities & Exchange Commission Form 20-F



These reports, filed with the SIX Swiss Exchange in Switzerland and the US Securities and Exchange Commission in the US, provide a comprehensive overview of Novartis, including our company structure, corporate governance and compensation practices. They also disclose our operating and financial results, accompanied by audited annual financial statements.

[www.novartis.com/reportingsuite](http://www.novartis.com/reportingsuite)

### Novartis in Society ESG Report



The Novartis in Society ESG Report details progress on environmental, social and governance topics and demonstrates the company's commitment in global health and corporate responsibility.

[www.novartis.com/nisreport2020](http://www.novartis.com/nisreport2020)

### Annual Review



The Annual Review explains who we are and what we do, and highlights our progress against the company's five strategic priorities in 2020.

[www.novartis.com/ar20english](http://www.novartis.com/ar20english)

[www.novartis.com/ar20german](http://www.novartis.com/ar20german)

### Digital reporting homepage



We present digital and interactive versions of the Annual Review and Novartis in Society ESG Report.

[www.reporting.novartis.com](http://www.reporting.novartis.com)

Follow us on



## Disclaimer

These materials contain forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995, that can generally be identified by words such as "potential," "expected," "will," "planned," "pipeline," "outlook," or similar expressions, or by express or implied discussions regarding potential new products, potential new indications for existing products, potential product launches, or regarding potential future revenues from any such products; or regarding the impact of the COVID-19 pandemic on certain therapeutic areas including dermatology, ophthalmology and the Sandoz retail business, and on drug development operations; or regarding potential future, pending or announced transactions; regarding potential future sales or earnings of the Group or any of its divisions; or by discussions of strategy, plans, expectations or intentions; or regarding the Group's liquidity or cash flow positions and its ability to meet its ongoing financial obligations and operational needs; or regarding our not-for-profit portfolio of 15 medicines from the Sandoz division for symptomatic treatment of COVID-19 and our collaboration with Molecular Partners to develop, manufacture and commercialize potential medicines for the prevention and treatment of COVID-19. Such forward-looking statements are based on the current beliefs and expectations of management regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. You should not place undue reliance on these statements. In particular, our expectations could be affected by, among other things: uncertainties regarding the success of key products and commercial priorities; global trends toward healthcare cost-containment, including ongoing government, payer and general public pricing and reimbursement pressures and requirements for increased pricing transparency; uncertainties in the research and development of new healthcare products, including clinical trial results and additional analysis of existing clinical data; our ability to obtain or maintain proprietary intellectual property protection, including the ultimate extent of the impact on Novartis of the loss of patent protection and exclusivity on key products that commenced in prior years and is expected to

continue this year; the potential that the strategic benefits, operational efficiencies or opportunities expected from our recent transactions or our organizational, structural and cultural transformations may not be realized or may take longer to realize than expected; our performance on environmental, social and governance measures; uncertainties in the development or adoption of potentially transformational technologies and business models; uncertainties regarding potential significant breaches of information security or disruptions of our information technology systems; our reliance on outsourcing key business functions to third parties; our ability to attract, integrate and retain key personnel and qualified individuals; uncertainties regarding actual or potential legal proceedings, including, among others, litigation and other legal disputes with respect to our recent transactions, product liability litigation, litigation and investigations regarding sales and marketing practices, intellectual property disputes and government regulation investigations generally; regulatory actions or delays or government regulation generally, including potential regulatory actions or delays with respect to the development of the products described in this Novartis in Society ESG report; our ability to comply with data privacy laws and regulations, and uncertainties regarding potential significant breaches of data privacy; safety, quality, data integrity or manufacturing issues; general political, economic and business conditions, including the effects of and efforts to mitigate pandemic diseases such as COVID-19; the impact of pandemic diseases such as COVID-19 on enrollment in, initiation and completion of our clinical trials in the future, and research and development timelines; uncertainties involved in predicting shareholder returns; uncertainties regarding the effects of recent and anticipated future changes in tax laws and their application to us; uncertainties regarding future global exchange rates; uncertainties regarding future demand for our products; and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in these materials as of this date and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.

All product names printed in italics in this Annual Review are trademarks owned by or licensed to the Novartis Group.

The use of a <sup>TM</sup> or the registered trademark symbol <sup>®</sup> in combination with a brand name in a normal script indicates a third-party brand.

The business policy of Novartis takes into account the OECD's Guidelines for Multinational Enterprises, with their recommendations on the disclosure of information.

Our Annual Review is published in English; a German translation is also available.

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**Translation:** Supertext AG, Zurich, Switzerland

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**Inside cover photo** Dr. Juliet Akoth uses a cardiac ultrasound machine at Kitui Hospital, Kenya. Dr. Akoth enrolled in Echo for Life, a training program sponsored by Novartis in partnership with the University of Nairobi to train healthcare professionals in the diagnosis and treatment of cardiovascular disease.

**Back cover photo** In Vietnam, Dr. Ngo Viet Quynh Tram (center) poses with her teaching assistants at the Hue University of Medicine and Pharmacy. In just two months, Dr. Tram and her colleagues trained around 400 final-year medical students how to screen, diagnose and treat COVID-19 patients, mirroring similar efforts at medical schools around the country. The program was supported by the Novartis COVID-19 Response Fund.



