We are creators and makers of technology

- One of the world’s largest semiconductor companies
- 2019 revenues of $9.56B
- 46,000 employees of which 7,800 in R&D
- Over 80 Sales & marketing offices serving over 100,000 customers across the globe
- 11 Manufacturing sites
- Signatory of the United Nations Global Compact (UNGC), Member of the Responsible Business Alliance (RBA)

As of December 31, 2019
ST stands for life.augmented

Everywhere microelectronics make a positive contribution to people’s lives, ST is there
Our value proposition

For our **shareholders**

Return value in line with our sustainable, profitable growth objective

Sustainable and profitable growth

For our **customers**

Provide differentiating enablers

Independent, reliable & secure supply chain

For other **stakeholders**

Committed to sustainability

Our values: Integrity – People – Excellence
At ST we create technology that starts with You

Our employees
Our customers
Our partners
Where you find us

Making **driving** safer, greener and more connected

Enabling the evolution of **industry** towards smarter, safer and more efficient factories and workplaces

Making **homes & cities** smarter, for better living, higher security, and to get more from available resources

Making everyday **things** smarter, connected and more aware of their surroundings
Trends and markets
Our strategy stems from key long-term enablers

**Smart Mobility**

ST provides innovative solutions to help our customers make driving safer, greener and more connected for everyone.

**Power & Energy**

ST technology and solutions enable customers to increase energy efficiency everywhere and support the use of renewable energy sources.

**Internet of Things & 5G**

ST provides sensors, embedded processing solutions, connectivity, security and power management, as well as tools and ecosystems to make development fast and easy for our customers.
ST provides innovative solutions to help our customers make driving safer, greener and more connected for everyone.

Increase safety for road users & driver comfort and convenience

Affordable, desirable electric vehicles

Cleaner, greener Internal Combustion Engines (ICE)

Road crashes carry a high human toll and cost > $500 Billion every year

Electric vehicles* from 9% in 2019 to >20% in 2025 of global car production

ICEs in > 90% of new vehicles produced 2020-2025

Sources: www.asirt.org, Strategy Analytics
* Excluding Mild Hybrid EV
ST technology and solutions enable customers to increase energy efficiency everywhere & support the use of renewable energy sources.

- Rising demand for and usage of electrical energy
- Decrease carbon emissions to reduce global warming impact
- Increase use of renewable energy

- > 30% global electricity demand increase from 2020 to 2030
- 45% CO₂ emission reduction from 2010 to 2030 to limit warming to 1.5oC
- Electrical energy from renewal sources from ~10% in 2020 to ~20% in 2030

Sources: IEA, IPCC, BP
**Internet of things & 5G**

ST provides sensors, embedded processing, connectivity, security and power management, as well tools and ecosystems

- **Two** billion industrial IoT & utility connected devices by 2022
- IoT security services market > $10 billion in 2021
- > 90 million new 5G IoT connections in 2026

**Cloud connected and data-enabled services**

**Digital security for all data**

**5G accelerating the connection of objects to the IoT**

Source: ABI
Our strategy
We address four end markets:

- Automotive
- Industrial
- Personal electronics
- Communications equipment, computers & peripherals
Our strategic objectives

Automotive

- Lead in car electrification
- Lead in car digitalization

Industrial

- Lead in embedded processing
- Accelerate growth in analog & sensors
- Expand in power & energy management
- Accelerate growth with industrial OEMs

Personal electronics

- Lead in selected high-volume smartphone applications with differentiated products or custom solutions
- Leverage broad portfolio to address high-volume applications

Communications Equipment, Computers & Peripherals

- Address selected high-volume applications with differentiated products or custom solutions
- Address selected applications in cellular and satellite communication infrastructure
- Leverage broad portfolio to address high-volume applications
Products and technologies
Differentiated technologies are our foundation

MEMS for sensors & Micro-actuators
FD-SOI CMOS FinFET through Foundry
Analog & RF CMOS
eNVM CMOS

Smart Power: BCD (Bipolar - CMOS - Power DMOS)
Discrete, Power MOSFET, IGBT Silicon Carbide, Gallium Nitride
Vertical Intelligent Power
Optical sensing solutions

Packaging technologies
Leadframe – Laminate – Sensor module – Wafer level
Our products and solutions enable customer innovation

Dedicated Automotive ICs

Analog, Industrial & Power Conversion ICs

GP MCU & MPU, Secure MCUs, EEPROM

Discrete & Power Transistors

MEMS & Optical sensing solutions

ASICs based on ST proprietary technologies
<table>
<thead>
<tr>
<th>Dedicated Automotive ICs</th>
<th>Discrete &amp; Power Transistors</th>
<th>Analog, Industrial &amp; Power Conversion ICs</th>
<th>GP, Connected MCU, MPU Secure MCU, EEPROM</th>
<th>MEMS &amp; Optical sensing solutions</th>
<th>ASICs based on ST proprietary technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC5</td>
<td>STPOWER</td>
<td>STSPIN</td>
<td>STM32</td>
<td>iNEMO</td>
<td>RF-SOI</td>
</tr>
<tr>
<td>Stellar</td>
<td>SIC</td>
<td>VIPerPlus</td>
<td>STSECURE</td>
<td>FlightSense</td>
<td>FD-SOI</td>
</tr>
<tr>
<td>ADAS</td>
<td>IGBT</td>
<td>ST25</td>
<td></td>
<td></td>
<td>BICMOS</td>
</tr>
</tbody>
</table>

**Smart Mobility** | **Power & Energy** | **Internet of Things & 5G**
Dedicated automotive ICs

Automotive MCUs
- Scalable single- and multi-core MCU solutions
- Targeting cost-sensitive to highly-advanced applications
- Comprehensive development ecosystem

ADAS solutions
- CMOS image sensors
- Image signal processors
- Radar transceivers
- V2X communication solutions

Infotainment and telematics
- Makes the driving experience more fun and comfortable
- Outstanding audio fidelity and positioning accuracy in every condition
- Secure smartphone mirroring
- Safe vehicle connectivity with wide set of peripherals

Automotive Analog & Power
- Compliance with rigorous automotive requirements
- Design-ins at automotive suppliers and car makers
- Wide portfolio of analog, power and digital products
- VIPower* HSDs, LSDs & H-bridges and LED drivers
- Complete system kit solutions

* registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere
### Key power technologies & packages for:

- **Car electrification**
- **Power management**
- **Motor control**

### Diodes
- Silicon carbide (SiC) & high- and low-voltage silicon diodes
- Ultra-fast & bridge rectifiers
- Power Schottky diodes & field-effect rectifiers
- Thyristors (SCR) & Triacs
- ACS* AC switches

### Rectifiers
- Ultra-fast & bridge rectifiers

### Thyristors (SCR)
- Thyristors (SCR) & Triacs
- ACS* AC switches

### AC switches
- ACS* AC switches

### Transient Voltage Suppressors (TVS)
- ESD protection
- EOS & lightning surge protection
- Current limiters
- ESR protection devices
- IPAD* Integrated EMI and ESD protection devices
- Integrated passive devices
- Smart antenna tuning

### Integrated EMI filtering and protection ICs
- IPAD* Integrated EMI and ESD protection devices
- Integrated passive devices
- Smart antenna tuning

### Gallium Nitride (GaN) on silicon power and RF transistors
- LDMOS & DMOS RF power transistors
- Silicon-Carbide MOSFETs
- High- and low-voltage silicon power MOSFETs (STripFET, Planar & MDmesh*)
- IGBTs
- Power bipolar transistors
- ACEPACK* power modules
- SLLIMM* intelligent power modules

---

* registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere
# Analog, industrial & power conversion ICs

## Power management
- AC/DC & DC/DC converters
- Analog & digital controllers
- Linear voltage regulators
- Voltage reference
- eFuses
- LED drivers & lighting ICs
- Intelligent Power Switches
- Battery management ICs
- Wireless power solutions
- Power-over-Ethernet ICs
- Photovoltaic ICs
- Rad-Hard products

## Analog products & Specific ICs
- Operational amplifiers
- Comparators
- Current sensing amplifiers
- Filtering & signal conditioning
- Interfaces & transceivers
- Audio ICs
- Switches
- Reset and Supervisors
- Rad-Hard products
- Medical ICs
- Smart Metering ICs

## Motor control
- Brushed DC motor drivers
- Brushless DC motor drivers
- Stepper motor drivers
- MOSFET & IGBT gate drivers
- Galvanic isolation ICs
- GaN drives

## Connectivity solutions
- Bluetooth® Low Energy ICs
- Sub-1 GHz transceivers
- Sigfox-compatible devices
- LoRaWAN® technology
- Short-range RF transceivers
- Powerline communication ICs
- IO-Link
MEMS & optical sensing solutions

Motion sensors
- Accelerometers
- e-compasses
- Gyroscopes
- iNEMO* inertial modules
- T-Plus: Motion MEMS with embedded temperature sensor

Environmental sensors
- Pressure sensors
- Temperature sensors
- Humidity sensors
- MEMS microphones

Micro actuators
- Actuators for printheads
- Micro mirrors & drivers
- Piezoelectric actuators
- Electrostatic actuators
- Electromagnetic actuators
- Thermal actuators

Optical sensing solutions
- FlightSense* ToF proximity & ranging modules
- 3D FlightSense* ToF sensors
- Global shutter CMOS image sensors
- Ambient light sensors
- Custom optical solutions

* registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere
**General purpose MCU & MPU, secure solutions & NFC**

### GP 32-bit MCUs & MPUs
- STM32* 32-bit general-purpose microcontrollers (MCUs) and microprocessors (MPUs)
- 1000+ compatible devices
- Arm® Cortex® Cores
- Maximum integration
- Extensive ecosystem

### GP 8-bit MCUs
- 8-bit general purpose microcontrollers (MCUs)
- Dedicated series for mainstream, ultra-low-power and automotive
- Rich ecosystem

### Secure Solutions
- Secure MCUs
- eSIM, eSE, NFC for mobile
- eSIM, eSE and TPM for industrial, IoT and automotive
- Secure payment solutions
- Authentication and Brand protection solutions

### NFC & Memory
- NFC / RFID Tags
- Dynamic NFC Tags
- NFC / RFID Readers
- UHF Readers
- High-performance & high-endurance EEPROM

* registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere
ST offers strategic independence and product differentiation to ASIC customers through three key enablers:

- Advanced manufacturing technology platforms
- Worldwide design resources and advanced IP
- ST’s Independent Device Manufacturer supply chain

<table>
<thead>
<tr>
<th>Digital ASICs</th>
<th>Analog &amp; RF ASICs</th>
</tr>
</thead>
<tbody>
<tr>
<td>System-on-Chip designs in CMOS and FD-SOI technologies with eNVM option, as well as FinFET (through foundry)</td>
<td>Unique expertise in RF and analog design using advanced technologies, such as RF-SOI, BiCMOS and millimeter wave</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEMS and imaging ASICs</th>
<th>Power ASICs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary micromachining process, deep expertise in MEMS integration Custom imaging solutions and premium foundry services</td>
<td>A broad portfolio of differentiated technologies including BCD, VIPower*, SiC, GaN and power MOSFET</td>
</tr>
</tbody>
</table>

* registered and/or unregistered trademarks of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere
Manufacturing and R&D
We offer quality, flexibility and supply security
We are drivers of your innovation

Advanced R&D centers around the world for close collaboration with operations and customers

- 18,500 patents & 590 new filings in 2019
- 16% of revenues invested in R&D
- 7,800 people working in R&D and product design
Quality as a key business enabler

Our Quality Vision

Elevate ST to the highest level of quality as an asset for our customers

Our Quality Mission

Ensure ST products meet the highest quality and reliability requirements of customers in the markets we address

How do we achieve this

Sustainable culture of quality excellence
Customer focus
Result-driven improvement programs
We are partners with our customers worldwide

Over 80 sales offices in 35 countries
We serve more than 100,000 customers

**Top 10 Customers**

- Apple
- Huawei
- Bosch
- Intel-Mobileye
- Ciena
- Samsung
- Continental
- Seagate
- HP
- Tesla

*In alphabetical order*

**Globally Managed Accounts**

- Unified worldwide account management tailored to each account to provide global coverage and service

**Distribution & Mass Market**

- Standard process, reporting & follow-up in Sales & Marketing worldwide
- Differentiated approach by type of customer
Q3 2020 revenues

% by product group
- Microcontrollers & Digital ICs Group (MDG): 31%
- Analog, MEMS & Sensors Group (AMS): 37%
- Automotive & Discrete Group (ADG): 32%
- Others: 0.1%

% by shipment location
- Americas: 40%
- Asia Pacific: 36%
- EMEA: 24%

% by region of origin
- Americas: 36%
- EMEA: 24%
- Asia Pacific: 34%

% by customer type
- Top 10 OEMs: 51%
- Other OEMs: 23%
- Distribution: 26%
- Others: 0.1%
2019 revenues by product group and customer type

% by product group 2019
- Analog, MEMS & Sensors Group (AMS): 34%
- Microcontrollers & Digital ICs Group (MDG): 38%
- Automotive & Discrete Group (ADG): 28%
- Others: 0.1%

% by customer type 2019
- Top 10 OEMs: 45%
- Distribution: 30%
- Other OEMs: 25%
2019 revenues
shipment location and region of origin

<table>
<thead>
<tr>
<th>Shipment location</th>
<th>Region of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>Asia Pacific</td>
</tr>
<tr>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>EMEA</td>
<td>Americas</td>
</tr>
<tr>
<td>24%</td>
<td>33%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>EMEA</td>
</tr>
<tr>
<td>14%</td>
<td>29%</td>
</tr>
</tbody>
</table>
Our people
Our technology starts with our people

- Manufacturing ~ 67%
- Research & Development ~ 17%
- Marketing & Sales, Divisional Functions, Administration & General services ~ 16%

As of December 31, 2019

- Italy ~ 10,600
- Mediterranean ~ 4,700
- France ~ 10,100
- Asia ~ 18,400
- Others ~ 750

As of December 31, 2019

- France ~ 10,100
Sustainability
A longstanding commitment

1987
Business conduct & ethics policy

1993
Environmental policy

1995
1st Environmental Decalogue

1997
1st Environmental report
ISO 14001, EMAS

2000
Signatory of the UNGC 10 principles

2001
Reforestation program

2002
OHSAS 18001 certification

2003
Supply Chain Responsibility

2005
ST Code of Conduct Principles of Sustainable Excellence Health Plan

2006
ST Code of Conduct Principles of Sustainable Excellence Health Plan

2007
Conflict Minerals program

Ethics committee

2011
Sustainable Technology program

ISO 50001 energy management

2012
ISO 22301 Business Continuity 1st certification

5th Environment, Health & Safety Decalogue

2014

2016
20th Sustainability Report

ST’s creation

2017

2019
2025 CO2 goal achieved
Our sustainability strategy

We conduct our business responsibly to create value for all stakeholders

WE LIVE OUR VALUES: People, Integrity, Excellence

WE PUT PEOPLE FIRST
- Health & Safety
- Labor & Human Rights
- Development & Engagement
- Diversity & Inclusion

WE IMPROVE EVERYBODY’S LIFE
- Sustainable Profit
- Innovation
- Quality
- Sustainable Technology

WE PROTECT THE ENVIRONMENT
- Energy & Climate Change
- Water
- Waste & Effluents
- Chemicals

TOGETHER, WE SHAPE THE FUTURE
- Supply Chain Responsibility, Education & Volunteering

Based on 2017 external materiality exercise
Our sustainability ambitions and 2025 goals

### WE PUT PEOPLE FIRST

<table>
<thead>
<tr>
<th>Health &amp; Safety</th>
<th>Labor &amp; Human Rights</th>
<th>Development &amp; Engagement</th>
<th>Diversity &amp; Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be a safe workplace with zero injuries, zero occupational diseases and ensure healthy lives and well-being for all.</td>
<td>Be recognized as a leader in labor and human rights and accept zero tolerance on forced labor.</td>
<td>Offer the best employee experience in all the locations where we operate.</td>
<td>Achieve full gender equality and be a leader in cultural and disability inclusion.</td>
</tr>
</tbody>
</table>

#### 2025 GOALS

- **<0.15%** recordable cases* for employees and contractors
  *Injuries and Illnesses
- **100%** of ST manufacturing sites recognized by external international bodies
- Employee engagement rate **+10 points above country norms**
- **>20%** women in all management levels

### WE IMPROVE EVERYBODY’S LIFE

<table>
<thead>
<tr>
<th>Innovation &amp; Profits</th>
<th>Quality</th>
<th>Sustainable Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustain profitable growth, being the world leader in Industrial, Internet of Things and Automotive applications and markets.</td>
<td>Lead our market in terms of product quality, with no severe quality incidents, while meeting the most stringent customer expectations.</td>
<td>Design and manufacture products that have the greatest positive impact on the planet and society.</td>
</tr>
</tbody>
</table>

#### 2025 GOALS

- **>20%** of revenues generated by new product lines
- **-75%** severe quality incidents*
  *2016 baseline
- **x3** % revenues generated by responsible products*
  * vs 2016

### TOGETHER, WE SHAPE THE FUTURE

<table>
<thead>
<tr>
<th>Supply Chain Responsibility</th>
<th>Education &amp; Volunteering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematically assess and mitigate social, environmental, health &amp; safety, and ethical risks in our extended supply chain.</td>
<td>Prepare the future by supporting education in schools in all the countries where we operate.</td>
</tr>
</tbody>
</table>

#### 2025 GOALS

- **100%** suppliers at risk audited
- **STEM** education partnerships in **20 countries**
  *Science, Technology, Engineering, Mathematics

### WE PROTECT THE ENVIRONMENT

<table>
<thead>
<tr>
<th>Energy &amp; Climate Change</th>
<th>Water</th>
<th>Waste &amp; Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuously reduce our carbon footprint and our impact on climate change by decreasing our GHG emissions and improving energy efficiency.</td>
<td>Maintain our leadership in water efficiency by reducing consumption, recycling more, and reinforcing our efforts in water scarcity areas.</td>
<td>Strive for zero waste in landfill, reduce our consumption of chemicals and eliminate hazardous materials.</td>
</tr>
</tbody>
</table>

#### 2025 GOALS

- **-20%** energy consumption and GHG emissions*
  *Normalized values vs 2016
- **-20%** water consumption*
  *Normalized values vs 2016
- **95%** of our waste reused and recycled

* 2016 baseline
  * vs 2016
  *Normalized values vs 2016
Our business model

Main steps in our value chain

Resources

• Human
  - 46,000 employees
  - 105 nationalities
  - 54% women, 46% men
  - Average age: 40

• Financial
  - US$12 billion total assets
  - US$1.2 billion capital investments
  - US$672 million net cash

• Intellectual
  - 7,800 employees in R&D
  - US$1.5 billion R&D investments
  - 136 R&D partnerships

Manufactured

• 11 manufacturing sites
  - 7 different countries
  - 67% of employees in manufacturing
  - 35,000 suppliers

Natural

• 2,480GW of energy consumed
• 27% of renewable energy
• 19 million m³ of water withdrawn
• 3,000 chemicals used

Social and relationship

• ST values and
  - Code of Conduct
  - US$1.8 million cash donated by ST to local communities
  - >145,000 hours donated to local communities

Value created

Human

Engaged and skilled people in an inclusive and safe workplace
  - average of 50 hours training per employee
  - 77% of employees recommend ST as a great place to work
  - 0.76 recordable case rate (injuries)

Financial

Sustainable financial performance
  - US$9.56 billion net revenues
  - US$2.96 billion salaries and benefits
  - US$165 million taxes paid
  - US$214 million cash dividend

Intellectual

Innovative products and solutions
  - 18,000 active patents
  - 65% of new products classified Sustainable Technology
  - 16% of revenues generated by new product lines

Manufactured

Responsible and effective business operations
  - >100,000 customers served
  - ISO 9001, 14001, 22301, 45001/OHSAS18001
  - IATF certifications
  - 100% of manufacturing sites covered by RBA audits
  - 99% of new suppliers screened on social responsibility criteria

Natural

Mitigation of the impact of our activities
  - 84% decrease in PFC emissions since 1994
  - 94% of waste reused, recovered or recycled
  - 41% of water recycled or reused

Social and relationship

Knowledge and values shared with all
  - >110,000 beneficiaries in local communities
  - 389 volunteering initiatives from 33 sites worldwide
  - >720,000 people trained on computer basics by ST Foundation since 2003

Management of our impacts

Suppliers
We require our suppliers to implement the Responsible Business Alliance (RBA) standards and encourage ISO and OHSAS certifications to address ethics, social, environmental, health and safety risks. We participate in the Responsible Minerals Initiative.

R&D concept and design
New products are created in a multi-step process including architecture conception, electrical layout, electrical and logic simulation, chip layout and generation and wafer design in silicon.

Front-end manufacturing
Manufacturing chips requires around 400 separate stages, starting with a plain wafer, and resulting in the etching of several hundreds to thousands of dies.

Electrical wafer sorting
Dies on the wafer are electrically tested. This step is known as wafer sort or probe.

Back-end manufacturing
The dies are cut from the silicon wafer before being assembled in a package. The chips are then tested prior to delivery to the customer.

Product use and end of life
We offer a large portfolio of products suitable for the wide range of applications addressed by our customers.

Environment
We deploy programs to reduce our direct and indirect greenhouse gas emissions from all our operations, including Perfluorinated Compounds (PFCs), which have a very long atmospheric lifetime and high global warming potential.
We minimize the environmental, health and safety risks related to the chemicals and materials used in the manufacturing process, by basing the selection, handling, and substitution on the precautionary principles.
We are continually reducing our water footprint through reuse and recycling and all our wastewater is treated before being discharged into the environment.
We reduce, reuse, recycle or recover as much of our waste as possible, rather than sending it to incineration or landfill.

People
We ensure the health and safety of our employees through advanced management systems and certification.
We implement our Code of Conduct and the RBA standards in all sites to mitigate our ethics and labor and human rights risks, and carry out regular assessments and audits in all our production sites.

Unless otherwise stated, all data refer to 2019.
Our Sustainable Technology program aims to develop responsible products which:
• improve our social and environmental footprint at every stage of the product life
• have the greatest positive impact on the planet and people in the end-application
Sustainability reporting

Transparency – Reliability – Comparability

• Economic, environmental and social performance
• Programs results and objectives
• Focus on site initiatives
• Aligned with Global Reporting Initiative guidelines
• Content and data verified by a 3rd party

Among the highlights in 2019

>97,000 medical acts conducted
177 supplier responsibility audits since 2015
-21% carbon emissions vs. 2018
62% of new products classified as responsible products
77% of employees recommend ST as a great place to work
100% of our products are conflict-mineral free
100% of ST manufacturing sites covered by RBA audits
94% of waste reused, recovered or recycled

Read ST’s 2020 sustainability report: sustainabilityreports.st.com
Thank you