

# INTER ACTIONS

November 2019

The rendez-vous for Air Liquide shareholders

**AIR LIQUIDE & YOU**  
EVERY GENERATION  
CAN ENJOY SHARE  
OWNERSHIP! p. 10

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REINVENTING HOME HEALTHCARE p. 6

# Conversation



**Sales momentum, a strengthened Executive Committee, digital transformation acceleration, the 30<sup>th</sup> free share attribution, share ownership for the new generation, and more. Benoît Potier discusses your Group's highlights.**

**You have announced new appointments to the Group's Executive Committee. Can you explain this evolution in the management team?**

**Benoît Potier:** Strengthening the Executive Committee will help speed up the implementation of our transformation strategy. Our businesses are changing significantly in line with our customers' expectations and digital and technological progress. With a stronger, younger, more feminine, and more international team with a broader range of expertise, Air Liquide will be able to better support not only its customers but also industrial and social changes on a global scale.

**You mention in particular the acceleration in the digital transformation. Why is this important for a Group like Air Liquide?**

**Benoît Potier:** Air Liquide is not a digital company, it's an industrial one. But very early on, we understood the potential of digital for our businesses. Digital solutions are present at all levels of the company's structure and are at the heart of our major projects. This digital transformation serves our strategic objectives and social responsibility. It contributes

to the implementation of a profitable, sustained and responsible growth model with our customers and all our stakeholders.

**At the beginning of October, Air Liquide carried out a free share attribution. How do these operations fit in with the long-term relationship that Air Liquide is developing with its shareholders?**

**Benoît Potier:** This was the Group's 30<sup>th</sup> free share attribution. I am particularly committed to these attributions which, over the long term, expand our shareholders' portfolios. Through these distributions, we are rewarding them for their loyalty. At the same time, we are fostering a close, trust-based relationship with our shareholders, in particular by offering new digital services and communicating with them on an increasingly personalized basis.

**Young people do not seem interested in share investments. How can Air Liquide attract them?**

**Benoît Potier:** It is often said that the new generation does not understand the role of individual share ownership and of the stock market. I believe that companies have a role to play in informing and convincing them to invest in shares. For this reason, we have stepped up awareness-raising initiatives at higher education institutions and take part in dedicated events such as *Investir Day* which took place in Paris in October. During these meetings, I have noticed that the younger generation is obviously looking for a return on their investment but they are also – and above all – looking for meaningful investments. And therefore we can show them that by investing in shares they are contributing to the real economy. This is reflected in the preservation and creation of jobs and, in Air Liquide's case, through initiatives relating to energy transition and the evolution of the healthcare sector. I strongly believe that the interest and support of this younger generation are key to meeting the challenges of the future. The creation of the *PEA Jeunes* (young person's personal equity plan) as part of the French law called *Loi Pacte*, and supported by Air Liquide, should help drive this momentum.

**Thank you for your loyalty and enjoy your reading.**

# A reinforced Executive Committee



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**A. BENOÎT POTIER**  
Chairman and Chief Executive Officer.

**B. MICHAEL J. GRAFF**  
Executive Vice President, supervising the Americas and Asia Pacific hubs, he is also in charge of the Electronics world business line.

**C. FRANÇOIS JACKOW**  
Executive Vice President, supervising the Europe Industries, Europe Healthcare and Africa/Middle East & India hubs, as well as the Healthcare world business line and Customer Experience Function.

**D. FABIENNE LECORVAISIER**  
Executive Vice President, in charge of Finance, Operations Control and General Secretariat.

**E. GUY SALZGEBER**  
Executive Vice President, in charge of the Industrial Merchant world business line, as well as the following functions: Innovation, Digital and IT, Safety, Procurement, Public Affairs and Sustainable Development. He also supervises the Global Markets & Technologies activity, including the newly created Hydrogen Energy world business line.

**F. JEAN-MARC DEROIERE**  
Senior Vice President, in charge of Inclusive Business. He is also Chairman of the Air Liquide Foundation.

**G. FRANÇOIS VENET**  
Senior Vice President, in charge of Strategy. He also supervises the Large Industries world business line and Engineering & Construction.

**H. FRANÇOIS ABRIAL**  
Vice President, in charge of the Asia Pacific hub.

**I. SUSAN ELLERBUSCH**  
Vice President, in charge of the US Large Industries, Electronics and Hydrogen Energy businesses, as well as Canada's Large Industries, Industrial Merchant and Healthcare businesses.

**J. MATTHIEU GIARD**  
Vice President, supervising the Industrial Merchant world business line, Procurement and Efficiency programs.

**K. ARMELLE LEVEUX**  
Vice President, Group Human Resources.

**L. ÉMILIE MOUREN-RENOUARD**  
Vice President, in charge of Innovation, Digital & IT, Intellectual Property, as well as Global Markets & Technologies activity.

**M. DIANA SCHILLAG**  
Vice President, in charge of Healthcare activities in Europe.

**N. PASCAL VINET**  
Chief Executive Officer of Airgas.



# Our achievements over the past six months

## Innovation

### QLIXBI, A DISRUPTIVE SOLUTION FOR WELDERS



**Welders practice a demanding job. Working in a highly competitive market, they are required to manage several factors, such as the supply of gas, which is essential to welding. Designed with them and for them, Qlixbi is a disruptive solution combining a new generation of gas cylinder with a range of digital solutions.**

This efficient, trustworthy and digital Qlixbi solution meets real-life needs of welders in workshops. The connector clips onto the cylinder without a wrench and can rotate 360°, limiting the risk of injuries. Supply continuity is guaranteed thanks to connected services which allow users to check stock online and get gas delivered automatically. The *fab assist* app also facilitates the cooperation between teams in workshop, allowing them to share files and technical drawings, monitor ongoing projects and their progress status.

**Qlixbi transforms the welding experience.**

**Find out more:**  
[airliquide.com/qlixbi](http://airliquide.com/qlixbi)

## Air Liquide's Scientific Challenge

### TO IMPROVE AIR QUALITY

For its second Scientific Challenge, Air Liquide focused on improving air quality and the fight against climate change, using Essential Small Molecules<sup>(1)</sup>. More than 130 proposals were received from 34 countries. From among these, the jury selected those proposed by José Manuel Serra Alfaro from the Valencia Institute of Chemical Technology in Spain, Christophe Copéret from ETH Zurich<sup>(2)</sup>, Switzerland, and Wenbiao Shen from the Nanjing Agricultural University in China. Congratulations to the winners! Partnerships will now be formed with them to develop their scientific proposals and transform them into market-adapted technologies.

(1) Oxygen, nitrogen, hydrogen, etc. are Essential Small Molecules for life, matter and energy. They embody Air Liquide's scientific territory.

(2) Zurich's Federal Institute of Technology.

**For more information  
on the winning projects:**  
[airliquide.com/2018challenge](http://airliquide.com/2018challenge)

## Hydrogen energy

### SOUTH KOREA UNFOLDS ITS ROADMAP

Air Liquide has designed a second hydrogen station in a bus depot in Busan, South Korea. Fully financed by Hyundai Motor Group, it will be run by local service station operator Daedo. Hydrogen-powered electric vehicles will be able to charge at the facility in just three minutes. South Korea, like China, Germany, Japan and the United States, is one of the leading countries in the development of hydrogen as a clean energy source. Air Liquide is committed to supporting the country in its efforts. This year, the Group will supply an additional three stations as part of the government's plan of installing 310 stations across the country to fuel more than 67,000 vehicles by 2022.

## Energy transition

### THYSSENKRUPP STEEL & AIR LIQUIDE: TOGETHER FOR LOW-CARBON PRODUCTION



Air Liquide and thyssenkrupp Steel, a world-leading supplier of carbon steel flat products, partner for innovative low-carbon hydrogen steelmaking. For the first time, hydrogen will be injected on a large scale to partially replace coal used in blast furnaces during steel production. Another illustration of the immense potential of hydrogen!



In its role as a corporate citizen, Air Liquide is supporting its customers in the improvement of their carbon footprint. The partnership with thyssenkrupp Steel is built on this objective. In the long term, hydrogen could significantly reduce the amount of coal used in the steel industry.



**PHILIPPE BLOSTEIN,**  
METALS MARKETING DIRECTOR, AIR LIQUIDE

## The maritime industry and the environment

### TURBO-BRAYTON, A TECHNOLOGY ENDORSED BY OUR CUSTOMERS

The maritime industry is also faced with the issue of greenhouse gas emissions. This sector represents around 3% <sup>(1)</sup> of the world's total CO<sub>2</sub> emissions. Solutions are being introduced to reduce this footprint and Air Liquide is contributing with its Turbo-Brayton technology. The solution developed by the Group relieves natural gas evaporations from tankers and stores them in a container in liquid form. This system generates natural gas savings and contributes to reducing greenhouse gas emissions. More than 20 contracts worth a total of 100 million euros have been signed by the Group over 2018-2019, representing 120,000 tons of CO<sub>2</sub> equivalent emissions avoided per year.

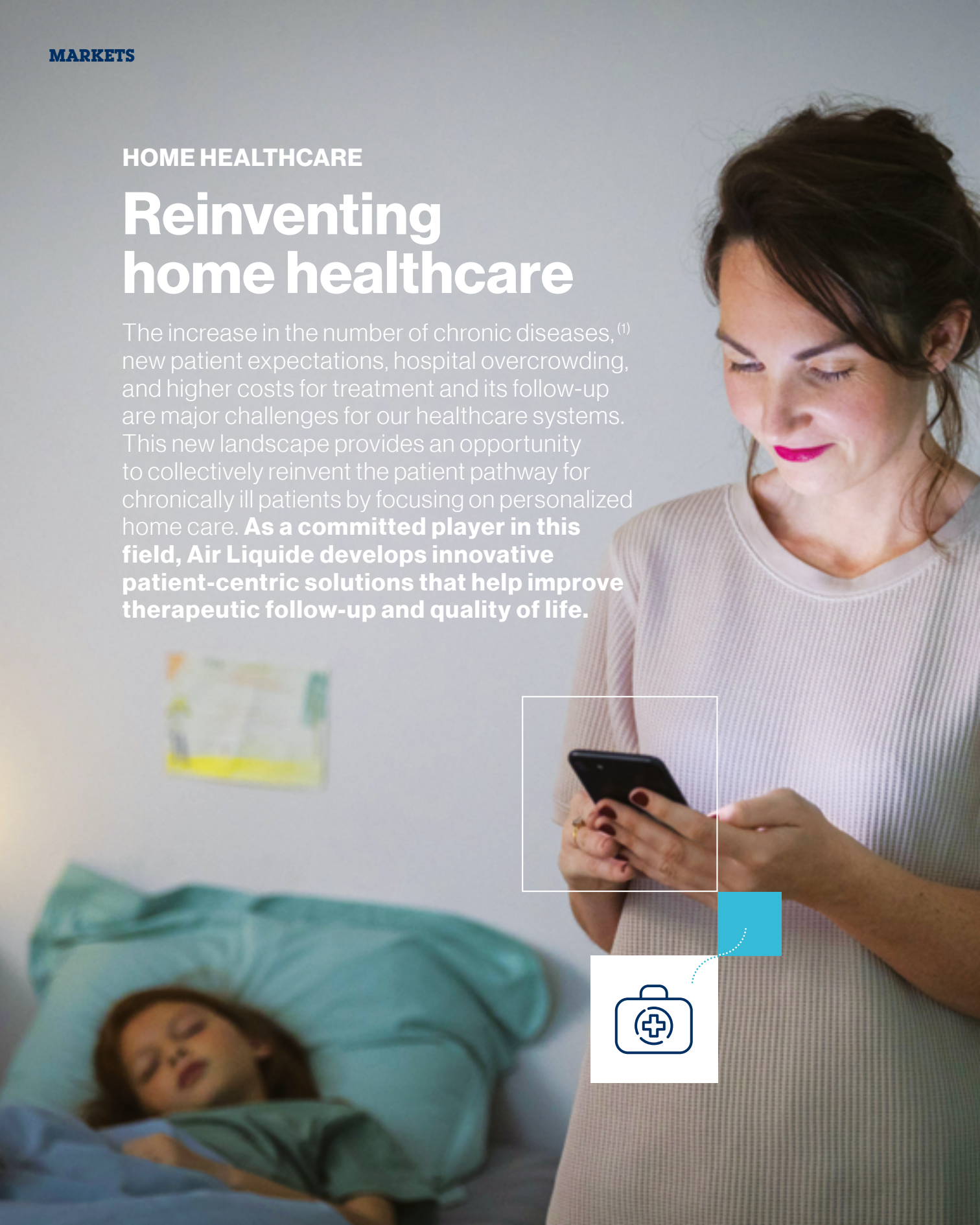
(1) Third IMO (International Maritime Organisation) Greenhouse Gas study 2014.



## HOME HEALTHCARE

# Reinventing home healthcare

The increase in the number of chronic diseases,<sup>(1)</sup> new patient expectations, hospital overcrowding, and higher costs for treatment and its follow-up are major challenges for our healthcare systems. This new landscape provides an opportunity to collectively reinvent the patient pathway for chronically ill patients by focusing on personalized home care. **As a committed player in this field, Air Liquide develops innovative patient-centric solutions that help improve therapeutic follow-up and quality of life.**







## THE HUMAN FACTOR, AN IRREPLACEABLE PRESENCE

The patient's relationship with a qualified expert is essential for the treatment of complex chronic diseases. Air Liquide mobilizes multidisciplinary teams of nurses, technicians, doctors, and pharmacists, which work in cooperation with patients and the prescribing doctors.



As life expectancy increases, demand for home healthcare is growing constantly. Supporting adherence to treatment for patients at home helps to reduce the cost of care while encouraging patient independence and improving quality of life.

In practice, unsuitable care support or failure to adhere to treatment can lead to additional financial costs due to complications or emergency hospitalizations, as well as indirect costs (side effects, nutritional issues, absence from work, instability or isolation). "This trend is changing the behavior of healthcare payers – both public and private – which are shifting towards performance-based payments by adapting the payments made by a healthcare provider based on the patient's adherence to treatment," says Grégory Olocco, Vice President of Markets, Strategy and Innovation at Air Liquide Healthcare business line.

On the personal and family side, the price can be high for both patients and their caregivers. Pedro, a patient supported by Air Liquide, has suffered from severe sleep apnea for a year: "My sleep apnea prevented my wife from sleeping. And the idea of wearing a mask worried me. But when I saw the benefits, I was persuaded to wear it every night," he explains. The initial steps of accepting a specific treatment and equipment are often critical. Patients and their families must be able to quickly see the benefits for their health and quality of life or they run the risk of abandoning the treatment.

A new approach is required, one that is focused on the patient and coordinated with all players. This approach combines efficient treatment with overall knowledge of the patient pathway of care to optimize the treatment of chronic diseases from both a therapeutic and

organizational point of view. Air Liquide's approach involves listening to the patient's needs and offering made-to-measure care that takes physiological data, lifestyle, and family circumstances into consideration. "We are working on patient adherence to treatment. The aim is to give each patient the means to better engage in their own care. Better-monitored treatment means better patient health, a relieved doctor, and lower indirect costs for the paying party," says Grégory Olocco.

### The patient at the heart of a consistent continuum of care

Madeleine, who has been diabetic for many years, suffers from several complications. "All these appointments with the cardiologist, the endocrinologist, and the ophthalmologist, both in the community and at the hospital, wear me out. I have to re-explain my case each time and

(1) In the world's industrialized countries, more than 60% of over-70s have at least one chronic disease.

Source: Stenholm S, Westerlund H, Head J et al. Comorbidity and Functional Trajectories from Midlife to Old Age: The Health and Retirement Study. J Gerontol A Biol Sci Med Sci 2014; 12: 1-7.



# 1.6M

PATIENTS WITH CHRONIC  
DISEASES CARED FOR  
IN THEIR HOME BY AIR LIQUIDE <sup>(2)</sup>

remember all the drugs that I've been prescribed and their dosage. It requires a lot of energy," she regrets. The home visits by a nurse and an Air Liquide technician have allowed Madeleine to better control her insulin pump treatment. When she has questions, she can now contact them at any time via a helpline. Lastly, a connected monitor allows her blood glucose to be checked in real time and helps avoid unnecessary medical appointments. As her doctor is notified only in the event of a problem, he can concentrate on high value-added medical procedures and regular discussions with the patient.

### Combining human and digital interaction

Air Liquide holds two trump cards in the drive to transform home healthcare: its very close human proximity with its patients, at home, for more than thirty years, and its innovative strength, in particular in terms of digital solutions.

"Our offer allows us to personalize our patient care and switch from a reactive medical approach to a proactive one. All this is possible thanks to two complementary forces: human and digital interactions," explains Grégory Olocco. This unique combination, reinforced by operational excellence that is recognized by healthcare professionals, represents the value-added of Air Liquide's solutions. Combined with the human factor, connected healthcare helps to ease pressure on the current health system: upstream, by allowing for the personalization of care and the detection of any complications, and downstream, by streamlining interactions between the various healthcare players. A necessary alliance to help patients return home and stay in their home under the very best conditions in terms of both comfort and medical surveillance.

## CHRONIC CARE CONNECT™ FOR CONTINUOUS CARE AND RAPID ACTION

Chronic Care Connect™ is a connected healthcare solution for patients suffering from chronic diseases and at risk of hospitalization. On the decision of the doctor, patients use one or more connected devices (scales, blood glucose monitor, etc.). The data collected is transmitted and analyzed remotely by nurses at the Air Liquide monitoring center, who are in regular contact with patients and their doctors.



### DID YOU KNOW?

**According to the World Health Organization (WHO), 50% of chronically ill patients do not adhere to their treatment properly. <sup>(3)</sup>**

To help improve patient adherence, beyond simply complying with the prescription, Air Liquide factors in several criteria including a patient's lifestyle, expectations, motivation, and understanding of a treatment's mechanism of action. Promoting adherence means helping patients self-manage their illness.

<sup>(2)</sup> Air Liquide 2018 Reference Document, page 3.

<sup>(3)</sup> Sabate E. Adherence to long-term therapies: Evidence for action. Geneva: World Health Organisation; 2003.



# Free shares: a comprehensive guide

On October 9, 2019, Air Liquide carried out its 30<sup>th</sup> free share attribution to all its shareholders. Here is all you need to know about this transaction.

## FOUR QUESTIONS FOR...

PATRICK RENARD, DIRECTOR OF SHAREHOLDER SERVICES

### How does the free share attribution work?

During attributions, you receive a share of past undistributed net profit in the form of new shares. On October 9, 2019, every shareholder thus received 1 free share for every 10 shares held.

### What is the impact on the share price?

During the attribution, the price is automatically adjusted in inverse proportion to the increase in the number of outstanding shares. Consequently, the value of your portfolio does not change.

### What is the point, then?

We have noticed our attributions generate a lot of interest for our shares and the share price has tended to go up in the weeks following them. But first and foremost, these attributions allow you to own an additional 10% of shares which entitle you to a dividend in the following years.

### Why is the Group offering these attributions?

We are committed to this specific system that complements your shareholder portfolio. We see it as a way of rewarding, over the long term, all shareholders for their loyalty.

1  
free share  
for every  
10 shares held  
+  
An additional  
10%  
of free shares  
for registered  
shares held  
for more  
than two full  
calendar years

## GOOD TO KNOW

### Loyalty rewarded

If you held your registered shares before January 1, 2017, you benefited from the +10% loyalty bonus in addition. For example, if you held 100 shares, you received a total of 11 new shares (10+1).

### You keep the same benefits

Loyalty bonus, seniority, voting rights and dividend rights: free shares have the same benefits as the shares they are derived from.

## FOCUS ON...

### What if my number of shares does not equal a multiple of 10?

If you had 307 shares in your portfolio before the attribution, you received 30 free shares and 0.7 "ordinary" fractional right paid in cash directly into your bank account. If these shares were eligible for the loyalty bonus, you received 3 additional free shares and 0.07 "loyalty" fractional right.





# Every generation can enjoy share ownership!

Becoming an Air Liquide shareholder means acting for your own benefit while also helping to invent the future. As shareholders, you already know this. At Air Liquide, we would like new generations to share these convictions, which is why we are doubling down on our educational initiatives.

Individual share ownership is at the heart of Air Liquide's DNA. From 1902 through today, it has been essential to our long-term growth and has provided a solid foundation for our development. We need to develop this relationship based on trust with new generations seeking performance as well as purpose. We have launched numerous initiatives to help us achieve this aim: visiting schools and universities, developing new digital services, participating in events such as *Investir Day* in France on October 3 in Paris, among others. In addition, the *PEA Jeunes* (young person's personal equity plan) created by the new French law called *Loi Pacte* and supported by the Group should also be a great way to promote financial education. Our goal with these initiatives is to show young investors that becoming an Air Liquide shareholder means taking part in a human and technological adventure that is both profitable and responsible, linked directly to the real economy and in line with their values.

## GET RID OF PRECONCEIVED IDEAS<sup>(1)</sup>

### **Savings are not for young people.**

False! 69% of Xennials and Millennials<sup>(2)</sup> say that they save every month.

### **Young people save for short-term projects.**

False! More than two-thirds of Xennials and Millennials save for medium to long-term goals.

### **Corporate investment does not interest young people.**

False! 79% of Xennials and Millennials say that they are likely to invest in a company or have already done so.

### **Young people are familiar with investments in shares.**

False! Their reluctance to invest in shares is mainly due to a lack of information, in particular regarding how the stock market works.

(1) Surveys entitled «Investissement en entreprise : les jeunes Français en quête d'information» (Corporate investment: young French people in search of information) and «Les Millennials et Xennials et l'investissement en entreprise» (Millennials and Xennials and corporate investment) carried out online by Infopro Digital Etudes and Air Liquide.  
(2) Xennials: individuals born between 1978 and 1983, Millennials: individuals born between 1984 and 2000.

## CUSTOMARY GIFTS: A PERFECT GIFT FOR THE HOLIDAY SEASON

The holiday season is fast approaching and you want to offer a gift that has both value and purpose: have you thought of a customary gift? Philippe Wertheim from Shareholder Services tells you more about this type of donation.



Customary gifts are a way of passing on Air Liquide shares for a specific event (a gift for the holidays, graduations, birthdays, weddings, etc.). The gift's value must be reasonable compared to the grantor's financial situation. No notarial deed is needed. Note that the shares retain loyalty bonus rights<sup>(1)</sup> if the gift is made to a spouse or relative entitled to inherit. Your customary gift will be accompanied by a gift card, an elegant way for you to pass on your

shares but also your commitment to the Group to your loved ones. You can also hand down shares throughout the year as a shared, simple or hand-to-hand gift with the benefit of partial or total tax exemption. A notary can advise you on how to set up personalized solutions, such as inter-vivos distribution donations, which allow you to pass on your shares while continuing to receive the dividends, i.e. retain the usufruct. //

► **Contact our Shareholder Services experts for more information. You can also find the dedicated factsheet on [airliquide.com](https://airliquide.com), Shareholders section.**

(1) After holding registered shares for two full calendar years, you are eligible to receive +10% on the amount of dividends received and on free shares when the free shares are attributed.

## STOCK MARKET PERFORMANCE

PERFORMANCE AT 31 OCTOBER 2019	AIR LIQUIDE	CAC 40
Over 1 year	<b>+22.44%</b>	+12.49%
Over 5 years	<b>+53.72%</b>	+35.36%
Over 10 years	<b>+161.16%</b>	+58.82%

**Share price at October 31, 2019: €119.10.** Performances calculated on October 31, 2019 on the basis of the closing quoted value of the share on October 31, 2018, October 31, 2014 and October 30, 2009. Past performances of Air Liquide's share are not a guarantee of future results.

## YOUR UPCOMING EVENTS

### December 2019

Register your shares!  
If you hold bearer shares, ask your bank to convert them into registered shares so you can start receiving the loyalty bonus in 2022.

### December 27, 2019

Deadline to place sell orders so they can be recorded in 2019.

### December 31, 2019

Deadline to place purchase orders so they can be recorded in 2019.

### February 11, 2020

Publication of 2019 annual results.





# Encounters

**Because we want to hear  
their opinions and expectations,  
we went out to meet Millennials  
who are interested in share ownership...**

**Contact us  
throughout the year:**



► **At the Shareholder Lounge,  
open Monday-Friday  
9 am to 6 pm (GMT +1)  
75, quai d'Orsay,  
75007 Paris - France**

► **By phone:  
+33 (0)1 57 05 02 26  
(from outside France)  
or 0800 166 179  
(free from a  
French landline)  
► By mail at:  
Service actionnaires  
TSA 91948  
62978 ARRAS Cedex 9,  
France**

► **On our website:  
[airliquide.com/  
shareholders/  
contact-us](https://airliquide.com/shareholders/contact-us)**



**@AirLiquideGroup**



**AirLiquide**



**[airliquide.com](https://airliquide.com)**

"The stock market isn't always easy to understand, but it allows us to support the companies that matter to us."

**Sophie N. — 25 years old**

"I believe that it is important to invest in shares when you're young. I haven't done so yet, but I'm thinking about it."

**Pinar K. — 25 years old**

"Investing in shares is a good way to achieve a dynamic investment and it's more affordable than investing in real estate."

**Arnaud D. — 22 years old**

"I've already invested in shares and I will do so again. I think investing when you're young helps improve your observation and strategy skills. It's challenging."

**Jorge B. — 25 years old**