Q1 2019 Activity

Continued sustained growth
Very active business development

Fabienne Lecorvaisier, Executive VP
Michael Graff, Executive VP

Paris, 26 April 2019
Q1 Well Aligned with NEOS Objectives

- Continued sustained sales growth: +9%, comparable +5%
- Action plans launched for increased efficiencies > €400m/year
- Strong cash flow
- Pursued active business development
FX Tailwind, Solid Markets

Forex Impact$^{(1)}$

+2.9%

Energy Impact$^{(1)}$

+0.7%

Markets

- Chemicals
- Oil & gas
- Steel
- Metal Fab.
- Construction
- Energy
- Food & Pharma
- Techno & Research
- Integrated Circuit

Outlook Q2 19

(1) On Group Q1 2019 sales
## High G&S Growth, Recovering E&C and Strong GM&T

<table>
<thead>
<tr>
<th>Sales in €m</th>
<th>Q1 18</th>
<th>Q1 19</th>
<th>Q1 19/18 As published</th>
<th>Q1 19/18 Comparable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas &amp; Services</td>
<td>4,831</td>
<td>5,237</td>
<td>+8.4%</td>
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</tr>
<tr>
<td>Engineering &amp; Construction</td>
<td>85</td>
<td>93</td>
<td>+7.6%</td>
<td>+5.0%</td>
</tr>
<tr>
<td>Global Markets &amp; Technologies</td>
<td>94</td>
<td>111</td>
<td>+18.2%</td>
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</tr>
<tr>
<td>Group Total</td>
<td>5,010</td>
<td>5,441</td>
<td>+8.6%</td>
<td>+5.0%</td>
</tr>
</tbody>
</table>
Very Active Quarter

Performance Focus

- Launch of accelerated efficiency plans

Technologies and Innovation

- Grand opening of Tokyo Innovation Center with Electronics WBL customers
- Equity stake in Hydrogenics, electrolysis $H_2$ production

Contributing to Climate objectives

M&A

- Acquisition of Tech Air in the U.S.

Long-Term Contracts

- €50m ASU contract in Russia
- Investment to build the world largest electrolyzer in Canada
## Solid Growth Levers

<table>
<thead>
<tr>
<th>WBLs</th>
<th>G&amp;S comparable sales growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Merchant</td>
<td>+3%</td>
</tr>
<tr>
<td>Large Industries</td>
<td>+5%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>+5%</td>
</tr>
<tr>
<td>Electronics</td>
<td>+14%</td>
</tr>
</tbody>
</table>

### Main Geographies contributing
- Asia, Europe, Africa & Middle East
- Developing Economies
- Europe, Americas
- Asia, Americas
Solid Base Business

G&S quarterly growth analysis

- Start-ups, Ramp-ups, Site takeovers, Small acquisitions
- Base business
- Significant M&A

(1) Comparable growth based on 2016 adjusted sales
Q1 - Solid Americas and Europe

G&S comparable sales growth

Americas - Strong activity in EL and HC

- LI: high comparison basis; strong H₂ volumes
- IM: solid cylinder volumes in most markets; One fewer working days
- Dynamic HC in the U.S. and South America
- EL: very strong in all segments

Sales Q1 2019

€2,069m

Europe - Continued strength in IM and HC

- LI: Strong H₂ for refining in Benelux; low Cogen; Ramp-Ups in Turkey and Kazakhstan
- IM: solid cylinder volumes, higher pricing
- HC: consistent organic growth across Europe; strong HHC, diabetes therapy in Nordics

Sales Q1 2019

€1,829m
Q1 - Strong Momentum in Asia, Robust Growth in AME

G&S comparable sales growth

Asia - Very Dynamic

- **LI**: Ramp-Ups in China, high H₂ volumes in Singapore
- **IM**: China with high bulk and cylinder volumes, sales >+15%; positive Japan
- **EL**: Start-Ups in Carrier Gases, very strong Advanced Materials, buoyant E&I

AME - Softening Effect of Major LI Start-Up

- **LI**: solid performance post impact of Dec’17 Start-Up in South Africa
- **IM**: continuous high growth in Middle-East and India

Sales Q1 2019

€1,194m

Q1 2019

+13%

+7%  +11%  +6%  +9%

Q1  Q2  Q3  Q4

9  26 April 2019  Q1 2019 Activity  A world leader in gases, technologies and services for Industry and Health
Q1 - Robust IM, Start-Ups in LI

G&S comparable sales growth

Industrial Merchant - Solid Growth

- One fewer working days
- Cylinder volume growth
- Pursued strong pricing at +3.3%

Sales
Q1 2019
€2,365m

+4%  +4%  +4%  +5%  +3%
Q1  Q2  Q3  Q4  Q1

Large Industries - Strong Activity

- High contribution from Start-Ups and Ramp-Ups
- Very strong H₂ volumes and solid air gases
- High comparison basis in Americas

Sales
Q1 2019
€1,490m

+6%  +4%  +5%  +3%  +5%
Q1  Q2  Q3  Q4  Q1
Q1 - Consistent HC, Continued Very High Growth in EL

G&S comparable sales growth

Healthcare - Steady Organic Growth

- High single-digit growth in HHC, limited impact from bolt-on acquisitions
- Very strong Medical Gases in Americas with Proximity care and success of innovative cylinders

Electronics - Strong Growth in All Segments

- Dynamic demand
- Double-digit growth in Carrier Gases; 3 Start-Ups
- Strong Advanced Materials, success of enScribe™
- Buoyant E&I

Sales Q1 2019

€897m

Sales Q1 2019

€485m
EL - Differentiation through High Value Products

 Carrier Gases and Advanced Materials
 Key growth drivers

- Global leader, #1 in Asia, #1 in China
- Partnership approach enabling customer technology advancement
- Balanced exposure in the Integrated Circuit market: logic, memory and analog
- Record signing, very strong sales backlog
EL - Stronger Margin Mix

- **Innovation-driven** growth enhancing margin mix
- New Offers in **Standard Plant** to meet evolving needs of industry
  - Continuous drive for efficiencies in Opex and Capex
- **Bringing value** through new **Advanced Materials**
  - R&D innovation co-development
  - High value molecules enabling customer technology
EL - Capturing Growth in an Expanding Industry

FROM

- Internet of Things - IoT
- Big Data
- Automotive
- Artificial Intelligence - AI
- Virtual and Augmented Reality
- Smart Communication

TO

- "Chips" will be in everything enabling IoT, AI and Automotive
- Key market drivers are all connected
- 5G connectivity enables enhanced development of market drivers
- Air Liquide growth driven by Semiconductor production volumes and industry Capex
Strengthened Efficiency Program Launched

2019 efficiencies

- Energy optimization: China, Germany, India
- Routing optimization: U.S., China, France
- Helium losses reduction in cylinders in China
- ~30% linked to climate objectives

Cumulated efficiencies

Target in 2020

>€1.5bn

New program launched:

- Airgas efficiencies
- Organization agility - mutualization
- Leverage on digital

Additional yearly €100m

Cash Flow

20.3% (1)

(1) Operating Cash Flow before change in Working Capital Requirements/Group Revenue
Decisions and Opportunities at High Level

**Investment Opportunities (1)**
12-month portfolio

- **Well-balanced by geography**
- **~€20m** average project size
- **38%** linked to climate objectives

- **Q1 2018**
  - €2.7bn

- **Q1 2019**
  - €2.7bn

**Q1 2019 Investment Decisions (1)**

- **High level of signings**
  - Equity stake in Hydrogenics
  - Largest electrolyzer, Canada
  - Biomethane project, Norway
- **Acquisition** of a major Industrial Merchant distributor in the U.S.

- **Q1 2018**
  - €0.9bn

- **Q1 2019**
  - €0.9bn

**Q1 2019 Start-up/Ramp-up Sales Growth Contribution**

- **7** Start-Ups, out of which **3** for EL
- **1** CO₂ purification plant in the U.S., circular economy

- **Q1 2018**
  - €103m

- **Q1 2019**
  - €103m

(1) See definitions in appendix
Confirmed Start-Ups Forecast

Major Start-Ups

<table>
<thead>
<tr>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
</tr>
<tr>
<td>Q2</td>
</tr>
<tr>
<td>Q3</td>
</tr>
<tr>
<td>Q4</td>
</tr>
</tbody>
</table>

- EL Projects Asia
- Pemex T/O Mexico
- EL Projects Asia
- LI T/O China
- LI Projects Middle-East
- Steel Projects Europe
- EL Projects Asia
- LI Project Argentina

Sales growth contribution - FY 2019

> €300m

Note: T/O = Take Over
2019 Outlook

Q1 2019

- Continued sustained growth in G&S
- Action plans deployed for increased efficiencies
- Strong cash flow
- Expanding investment opportunities

2019

“Assuming a comparable environment, Air Liquide is confident in its ability to deliver net profit growth in 2019, calculated at constant exchange rate”
Q1 2019 G&S Revenue Breakdown by Region

- **Americas**: €2.1bn (39%)
- **Europe**: €1.8bn (35%)
- **Asia-Pacific**: €1.2bn (23%)

**Revenue Breakdown by Region**

- **Americas**
  - Electronics: 4%
  - Large Industries: 16%
  - Healthcare: 24%
  - Industrial Merchant: 15%

- **Europe**
  - Electronics: 38%
  - Large Industries: 10%
  - Healthcare: 13%
  - Industrial Merchant: 35%

- **Asia-Pacific**
  - Electronics: 30%
  - Large Industries: 10%
  - Healthcare: 28%
  - Industrial Merchant: 12%

**GAS & SERVICES**

- **Q1 2019 Revenue**: €5,237m

*26 April 2019 Q1 2019 Activity
A world leader in gases, technologies and services for Industry and Health*
Americas

Q1 Gas & Services Sales: €2,069m

Industrial Merchant
- Most end-markets contributing to growth, particularly Metal fabrication.
- Solid demand for cylinders in U.S. and Canada, stable hardgoods in U.S.
- Strong pricing +3.8%

Large Industries
- High H₂ volume in North America
- High price comparison vs Q1 18 linked to severe weather condition
- Dynamic Latin America

Healthcare
- Strong Medical gases in the U.S. with Proximity care & digital cylinders
- Limited bolt-on acquisitions
- Dynamic HHC in Brazil, Argentina and Columbia

Electronics
- Strong momentum in Carrier Gases, Advanced Materials and E&I

Q1 19/18 Comparable growth: +2.4%
Europe

Q1 Gas & Services Sales: €1,829m

**Industrial Merchant**
- Broad based geographic growth
- Proactive actions to develop cylinder sales
- Stronger pricing: +3.2%
- Dynamic Eastern Europe

**Large Industries**
- High refining demand (Benelux)
- Solid growth of air gases sales in France and Germany
- Ramp-Ups in Turkey and Kazakhstan
- High comparison effect for Cogen activity

**Healthcare**
- Very steady organic growth
- Strong HHC, especially with increased number of patients with diabetes treated in Scandinavia, France and Spain
- Medical gases growth despite pricing pressure

---

Q1 19/18 Comparable growth: +2.8%

- 33% +3.3%
- 30% +0.9%
- 35% +5.4%

---

A world leader in gases, technologies and services for Industry and Health
Asia-Pacific

Q1 Gas & Services Sales: €1,194m

Industrial Merchant
- Very dynamic China (+15%), strong bulk (O₂ and Ar) and cylinders
- Strong Helium across the zone
- Improving Japan, lower Australia

Large Industries
- 3 Start-Ups in China in Q4 2018
- Strong H₂ in Singapore

Electronics
- >+10% growth in Carrier Gases China and Singapore
- Dynamic Advanced Materials South Korea, Taiwan and Japan
- Buoyant E&I sales >+50%

Q1 19/18 Comparable growth: +13.2%
### Industrial Merchant Pricing

<table>
<thead>
<tr>
<th>Region</th>
<th>Q1 2019</th>
<th>Q4 2018</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>+3.8%</td>
<td>+4.2%</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>+3.2%</td>
<td>+2.6%</td>
<td></td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>+1.4%</td>
<td>+1.2%</td>
<td></td>
</tr>
<tr>
<td>Africa &amp; Middle East</td>
<td>+5.3%</td>
<td>+3.4%</td>
<td></td>
</tr>
<tr>
<td>Total - Industrial Merchant</td>
<td>+3.3%</td>
<td>+3.3%</td>
<td></td>
</tr>
</tbody>
</table>
Q1 2019 - E&C Gradually Recovering, Strong Growth in GM&T

**E&C**
- Sales: €93m (+5%)
- Order Intake: €147m (-23%)

**GM&T**
- Sales: €111m (+16%)
- Order Intake: €127m (+4%)
Steady Backlog > €2bn

See definitions in appendix
# Impact of Currency and Energy on G&S Revenue

<table>
<thead>
<tr>
<th>Currency</th>
<th>In €m</th>
<th>Q1 18</th>
<th>Q2 18</th>
<th>Q3 18</th>
<th>Q4 18</th>
<th>Q1 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>€/USD</td>
<td></td>
<td>(258)</td>
<td>(147)</td>
<td>+15</td>
<td>+55</td>
<td>+138</td>
</tr>
<tr>
<td>€/CNY</td>
<td></td>
<td>(26)</td>
<td>(4)</td>
<td>(5)</td>
<td>(7)</td>
<td>+10</td>
</tr>
<tr>
<td>€/JP¥</td>
<td></td>
<td>(24)</td>
<td>(17)</td>
<td>+1</td>
<td>+8</td>
<td>+16</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>(105)</td>
<td>(90)</td>
<td>(72)</td>
<td>(57)</td>
<td>(23)</td>
</tr>
<tr>
<td><strong>Total currency impact</strong></td>
<td></td>
<td>(413)</td>
<td>(258)</td>
<td>(61)</td>
<td>(1)</td>
<td>+141</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Currency</th>
<th>Average rate</th>
<th>Q1 18</th>
<th>Q2 18</th>
<th>Q3 18</th>
<th>Q4 18</th>
<th>Q1 19</th>
</tr>
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<tbody>
<tr>
<td>€/USD</td>
<td>1.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.14</td>
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<tr>
<td>€/CNY</td>
<td>7.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.66</td>
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<tr>
<td>€/JP¥</td>
<td>133.1</td>
<td></td>
<td></td>
<td></td>
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<td>125.1</td>
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</table>

## Natural Gas

<table>
<thead>
<tr>
<th>In €m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Gas Impact</strong></td>
</tr>
</tbody>
</table>

## Electricity

<table>
<thead>
<tr>
<th>In €m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity Impact</strong></td>
</tr>
</tbody>
</table>
## Revenue Analysis by Quarter and by Business Line

<table>
<thead>
<tr>
<th>Sales in €m</th>
<th>Q1 18</th>
<th>Q2 18</th>
<th>Q3 18</th>
<th>Q4 18</th>
<th>Q1 19</th>
<th>Q1 19/18 as published</th>
<th>Q1 19/18 comparable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Industries</td>
<td>1,365</td>
<td>1,353</td>
<td>1,454</td>
<td>1,513</td>
<td>1,490</td>
<td>+9.1%</td>
<td>+5.1%</td>
</tr>
<tr>
<td>Industrial Merchant</td>
<td>2,208</td>
<td>2,293</td>
<td>2,312</td>
<td>2,368</td>
<td>2,365</td>
<td>+7.1%</td>
<td>+2.8%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>850</td>
<td>864</td>
<td>862</td>
<td>910</td>
<td>897</td>
<td>+5.6%</td>
<td>+5.4%</td>
</tr>
<tr>
<td>Electronics</td>
<td>408</td>
<td>428</td>
<td>438</td>
<td>481</td>
<td>485</td>
<td>+19.0%</td>
<td>+13.7%</td>
</tr>
<tr>
<td>Gas &amp; Services</td>
<td>4,831</td>
<td>4,938</td>
<td>5,066</td>
<td>5,272</td>
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<td>Global Markets &amp; Technologies</td>
<td>94</td>
<td>119</td>
<td>100</td>
<td>161</td>
<td>111</td>
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<tbody>
<tr>
<td>Americas</td>
<td>1,901</td>
<td>1,973</td>
<td>2,017</td>
<td>2,091</td>
<td>2,069</td>
<td>+8.9%</td>
<td>+2.4%</td>
</tr>
<tr>
<td>Europe</td>
<td>1,753</td>
<td>1,711</td>
<td>1,779</td>
<td>1,868</td>
<td>1,829</td>
<td>+4.3%</td>
<td>+2.8%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>1,016</td>
<td>1,091</td>
<td>1,099</td>
<td>1,153</td>
<td>1,194</td>
<td>+17.5%</td>
<td>+13.2%</td>
</tr>
<tr>
<td>Middle-East, Africa</td>
<td>161</td>
<td>163</td>
<td>171</td>
<td>160</td>
<td>145</td>
<td>-10.1%</td>
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</tbody>
</table>
## G&S Revenue Growth by Quarter and by Impact

<table>
<thead>
<tr>
<th></th>
<th>Growth as published</th>
<th>Natural Gas</th>
<th>Electricity</th>
<th>Currency</th>
<th>Significant perimeter</th>
<th>Comparable growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2018</td>
<td>-4.3%</td>
<td>-0.3%</td>
<td>-0.0%</td>
<td>-8.3%</td>
<td>-0.7%</td>
<td>+5.0%</td>
</tr>
<tr>
<td>Q2 2018</td>
<td>+0.1%</td>
<td>+0.6%</td>
<td>+0.4%</td>
<td>-5.3%</td>
<td>-0.7%</td>
<td>+5.1%</td>
</tr>
<tr>
<td>Q3 2018</td>
<td>+5.8%</td>
<td>+1.7%</td>
<td>+0.7%</td>
<td>-1.3%</td>
<td>-0.5%</td>
<td>+5.2%</td>
</tr>
<tr>
<td>Q4 2018</td>
<td>+8.1%</td>
<td>+1.8%</td>
<td>+0.7%</td>
<td>+0.0%</td>
<td>+0.0%</td>
<td>+5.6%</td>
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<td>+8.4%</td>
<td>+0.1%</td>
<td>+0.6%</td>
<td>+2.9%</td>
<td>+0.0%</td>
<td>+4.8%</td>
</tr>
</tbody>
</table>
Investment Cycle – Definitions

● **Investment opportunities at end of the period**
  - Investment opportunities under consideration by the Group for decision within 12 months.
  - Industrial projects with investment value > €5m for Large Industries and > €3m for other business lines.
  - Includes asset replacements or efficiency projects. Excludes maintenance and safety.

● **Investment backlog at end of the period**
  - Cumulated industrial investment value of projects decided but not yet started.
  - Industrial projects with value > €10m, including asset replacements or efficiency projects, excluding maintenance and safety.

● **Sales backlog**
  - Cumulated expected sales per year generated by the current investment backlog after full ramp-up.

● **Decisions of the period**
  - Cumulated value of industrial and financial investment decisions.
  - Industrial, growth and non-growth projects including asset replacements, efficiency, maintenance and safety.
  - Financial decisions (acquisitions).
Regular and Sustained Performance

CAGR over 30 years

Revenue (in €m) +5.8%

Cashflow (in €m) +6.5%

EPS (in €) +6.9%

Dividend (in € per share) +8.3%

(1) Calculated according to prevailing accounting rules over 30 years.
(2) Adjusted for the 2-for-1 share split in 2007, for attributions of free shares and for a factor of 0.974 reflecting the value of the rights of the capital increase completed in October 2016.
For further information, please contact:

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L’Air Liquide S.A.  
Corporation for the study and application of processes developed by Georges Claude  
with registered capital of 2,361,913,658.50 euros

Corporate Headquarters:  
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26 April 2019  
Q1 2019 Activity  
A world leader in gases, technologies and services for Industry and Health