

Moderna

| Target price : 440 \$ ➔

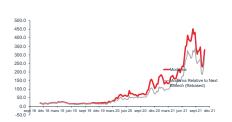
Outperform

Price (26/11/2021) : 329.63 \$ | Upside : 33%

Revision 2021e 2022e EPS

First answers in a few days/weeks

Publication date 29/11/2021 08:33 Writing date 29/11/2021 08:10



Sources : ODDO BHF Secu	rities, SIX		
Share data			
MRNA US MRNA.O Market Cap (\$m)			125 699 113 992
Enterprise value (\$m)	400 7		
Extrema 12 months (\$)		103.7	484.4
Free Float (%)			ns
Performance (%)	1m	3m	12m
Absolute	-4.7	-17.4	205.4
Perf. rel. Country Index	-2.3	-16.2	157.7
Perf. rel. Next Biotech	-1.8	-5.9	254.7
P&L	12/21e	12/22e	12/23e
Sales (\$m)	16 760	21 035	9 685
EBITDA (\$m)	11 469	15 248	6 099
Current EBIT (\$m)	11 260	14 827	5 906
Attr. net profit (\$m)	10 298	12 255	4 962
Adjusted EPS (\$)	27.00	32.31	13.08
Dividend (\$)	0.00	0.00	0.00
P/E (x)	12.2	10.2	25.2
P/B (x)	9.6	4.9	4.1
Dividend Yield (%)	0.0	0.0	0.0
FCF yield (%)	7.4	9.7	4.4
EV/Sales (x)	6.80	4.81	9.88
EV/EBITDA (x)	9.9	6.6	15.7
EV/Current EBIT (x)	10.1	6.8	16.2
Gearing (%)	-92	-95	-98
Net Debt/EBITDA (x)	ns	ns	ns

Next Events

Technology that allows for rapid adaptation

The emergence of the "Omicron" variant has put the spotlight back on players in the vaccine industry, particularly Moderna and BioNtech. Due to the rapid increase in new cases and the number of mutations involved in this form, the WHO has described this variant as "of concern" (see our sector flash published this morning: "New South African variant: too early to draw conclusions"). The mRNA vaccine technology should enable rapid adaptation to these new challenges. While BioNtech has announced that it will be back in less than two weeks with invitro data on the protection of its vaccine, Moderna has presented a clear roadmap on its development strategy if the protection of current vaccines were to prove insufficient.

A three-pronged strategy to avoid being caught short

Before drawing any hasty conclusions, let us first of all emphasise the work currently being done by Moderna on the evolution of the pathology. This three-pronged strategy is therefore underway, in parallel with laboratory work to determine whether the existing 50 µg booster is sufficient. Firstly, Moderna has already tested a higher booster dose of mRNA-1273 (100 µg). The safety is in line with previous data and the neutralising antibody dose is higher. Laboratory work is underway to analyse whether 100 µg offers superior protection against Omicron. Second, Moderna is already studying two multivalent booster candidates in the clinic that have been designed to anticipate mutations such as those that have arisen in the Omicron variant. The first candidate (mRNA-1273.211) includes several mutations present in this new variant that were also present in Beta. The company has completed dosing in a safety and immunogenicity study at doses of 50 µg (N=300) and 100 µg (N=584). The second multivalent candidate (mRNA-1273.213) includes several of the mutations present in the Omicron variant that were also present in the Beta and Delta variants. The company has completed the 100 µg dose (N=584) and also plans to explore the 50 µg dose in approximately 584 participants. Like the "classic" 100 µg booster trial, Moderna will look at whether these two vaccine candidates have greater protection against Omicron.

The last pillar is where Moderna will develop an Omicron-specific booster (mRNA-1273.529). In less than three months we could hope, on paper, to have a specific vaccine candidate against this new form and a market launch between 3 and 6 months from now depending on the requests of the health authorities (clinical trial).

Outperform maintained; Target price \$ 440

Unfortunately, this new variant reminds us that the pandemic is still present. We maintain our investment case with a transition from pandemic to epidemic form during 2022 thanks to the ramp-up of vaccination (first and booster). We do not have enough hindsight to change our figures for 2022 and 2023 at this time, but we believe that Moderna's strategy is the right one. We maintain our Outperform rating.

Martial Descoutures (Analyst) +33 (0)1 55 35 42 48 martial.descoutures@oddo-bhf.com Oussema Denguir (Analyst) +33 (0)1 44 94 54 56 oussama.denguir@oddo-bhf.com

Conflict of interests:

ODDO BHF CORPORATES & MARKETS, a division of ODDO BHF SCA, limited sharepartnership - Bank authorised by ACPR. ODDO BHF and/or one of its subsidiaries could be in a conflict of interest situation with one or several of the groups mentioned in this publication. Please refer to the conflict of interests section at the end of this document.

This is a non-contractual document, it is strictly for the private use of the recipient, and the information it contains is based on sources we believe to be reliable, but whose accuracy and completeness cannot be guaranteed. The opinions given in the document reflect our appraisal at the time of publication and may therefore be revised at a later date. @ guestex.com Le 27/04/2024 04:20:02 .

RNA.O MRNA US iotechnology US	Outperform Upside 33.48%				Price 329.63 \$ TP 440 \$			
R SHARE DATA (\$)	12/16	12/17	12/18	12/19	12/20	12/21e	12/22e	12/23
justed EPS	-0.65	-0.77	-1.16	-1.55	-1.96	27.00	32.31	13.0
ported EPS owth in adjusted EPS	-0.65	-0.77	-1.16	-1.55	-1.96	27.00	32.31 19.6%	13.0
et dividend per share	0.00	ns 0.00	ns 0.00	ns 0.00	ns 0.00	ns 0.00	0.00	-59.5% 0.0
F to equity per share	0.10	-1.18	-1.32	-1.48	-2.09	24.54	32.06	14.5
ok value per share	2.54	1.89	4.63	3.55	7.19	34.20	66.68	79.7
imber of shares market cap (m)	330.80	330.80	330.80	330.80	381.33	381.33	379.33	379.3
imber of diluted shares (m)	330.80	330.80	330.80	330.80 12/19	381.33 12/20	381.33 12/21e	379.33 12/22e	379.3
ALUATION (\$m) m highest price (\$)	12/16	12/17	12/18 18.80	28.15	169	484	12/220	12/23
m lowest price (\$)			14.03	12.32	17.90	109		
Reference price (\$)			16.54	18.06	62.45	330	330	33
pitalization			5 472	5 974	23 813	125 699	125 040	125 04
stated Net debt	-1 041.0	-732.8	-1 477.9	-1 219.5	-2 618.3	-11 977.8	-24 139.3	-29 662.
norities (fair value)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
nancial fixed assets (fair value)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
ovisions	501	339	271	271	271	271	271	27
Iterprise Value			4 265	5 026	21 465	113 992	101 171	95 64
E (x)			ns	ns	ns	12.2	10.2	25
			ns 0.0%	ns 0.0%	ns	12.0	9.9	24
t Yield			0.0% ns	0.0% ns	0.0% ns	0.0% 7.4%	0.0% 9.7%	0.0º 4.4º
XF yield B incl. GW (x)			3.58	5.09	8.68	9.64	4.94	4.4
B excl. GW (x)			3.58	5.09	8.68	9.64	4.94	4.1
//Sales (x)			31.58	83.47	26.72	6.80	4.81	9.8
//EBITDA (x)			ns	ns	ns	9.9	6.6	15
//Current EBIT (x)			ns	ns	ns	10.1	6.8	16
historical average price	40/40	40/47	40/40	42/40	40/00	40/04-	40/00-	40/02
ROFIT AND LOSS (\$m) les	12/16 108	12/17 206	12/18 135	12/19 60	12/20 803	12/21e 16 760	12/22e 21 035	12/2 : 9 68
BITDA	-206.2	-247.7	-390.3	-541.5	-706.9	11 469	15 248	6 09
preciations	-17.6	-21.6	-23.0	-4.2	-56.2	-209.5	-420.7	-193
irrent EBIT	-223.8	-269.4	-413.3	-545.7	-763.1	11 260	14 827	5 90
blished EBIT	-223.8	-269.4	-413.3	-545.7	-763.1	11 260	14 827	5 90
t financial income	8.6	13.4	28.9	31.0	18.6	57	117	14
prporate Tax	-1.0	0.1	-0.3	0.7	-2.6	-1 018.5	-2 690.0	-1 089
t income of equity-accounted companies	0.0 0.0	0.0 0.0	0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0	0
ofit/loss of discontinued activities (after tax) nority interests	0.0	0.0	0.0 0.0	0.0	0.0	0.0	0.0 0.0	0
ributable net profit	-216.2	-255.9	-384.7	-514.0	-747.1	10 298	12 255	4 96
ljusted attributable net profit	-216.2	-255.9	-384.7	-514.0	-747.1	10 298	12 255	4 90
ALANCE SHEET (\$m)	12/16	12/17	12/18	12/19	12/20	12/21e	12/22e	12/23
podwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
her intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
ngible fixed assets CR	81.2 -26.0	139 -67.5	212 -72.2	239 -78.9	253 -41.8	394 756	273 970	27 40
nancial assets	249	162	187	187	187	187	187	18
dinary shareholders equity	842	625	1 530	1 175	2 742	13 040	25 295	30 25
nority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
areholders equity	842	625	1 530	1 175	2 742	13 040	25 295	30 25
n-current provisions	503	341	275	275	275	275	275	27
	-1 041.0 12/16	-732.8 12/17	-1 477.9 12/18	-1 219.5 12/19	-2 618.3 12/20	-11 977.8 12/21e	-24 139.3 12/22e	-29 662
ASH FLOW STATEMENT (\$m) BITDA	-206.2	-247.7	-390.3	-541.5	-706.9	11 469.2	15 247.9	12/23 6 099
ange in WCR	0.0	-4.7	-4.3	6.8	-37.2	-797.8	-213.8	567
erests & taxes	2.0	-0.1	0.9	0.0	0.0	0.0	0.0	0
hers	270.9	-78.9	62.8	75.8	16.1	-961.8	-2 572.6	-944
perating Cash flow	66.7	-331.5	-330.9	-459.0	-728.0	9 709.5	12 461.5	5 722
APEX	-33.1	-58.4	-105.8	-31.6	-70.0	-350.0	-300.0	-200
ee cash-flow	33.6	-389.9	-436.6	-490.5	-798.0	9 359.5	12 161.5	5 522
quisitions / disposals <i>v</i> idends	0.0 0.0	0.0	0.0	0.0	0.0	0.0 0.0	0.0	C
vidends et capital increase	472.9	0.0 -1.3	0.0 1 217.4	0.0 0.0	0.0 2 473.0	0.0	0.0 -1 000.0	0
hers	0.0	0.0	0.0	0.0	2 473.0	0.0	0.0	(
ange in net cash	-109.0	83.3	514.0	-490.5	1 675.0	9 359.5	11 161.5	5 522
ROWTH MARGINS PRODUCTIVITY	12/16	12/17	12/18	12/19	12/20	12/21e	12/22e	12/2
les growth	-	89.9%	-34.4%	-55.4%	ns	ns	25.5%	-54.0
sales growth	0.0%	89.9%	-34.4%	-55.4%	ns	ns	25.5%	-54.0
Irrent EBIT growth	-	ns	ns	ns	ns	ns	31.7%	-60.2
owth in adjusted EPS	-	ns	ns	ns	ns 02.0%	ns 61.4%	19.6%	-59.5
et margin RITDA margin	ns ns	ns ns	ns ns	ns ns	-93.0% -88.0%	61.4% 68.4%	58.3% 72.5%	51.2 63.0
BITDA margin Irrent EBIT margin	ns	ns	ns	ns	-88.0%	67.2%	72.5%	61.0
APEX / Sales	-30.6%	-28.4%	-78.3%	-52.4%	-8.7%	-2.1%	-1.4%	-2.1
CR / Sales	-24.0%	-32.8%	-53.4%	ns	-5.2%	4.5%	4.6%	4.2
SIT / Sales	-0.5%	0.0%	-0.1%	0.1%	-0.3%	9.0%	18.0%	18.0
x Rate		18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0
x Rate rmative tax rate	18.0%		1.3	0.4	4.3	24.6	17.6	10
x Rate rmative tax rate set Turnover	-	3.3						
x Rate rmative tax rate set Turnover OCE post-tax (normative tax rate)	18.0% - -	ns	ns	ns	ns	ns	ns	
x Rate rmative tax rate set Turnover OCE post-tax (normative tax rate) DCE post-tax hors GW (normative tax rate)	-	ns ns	ns	ns	ns	ns	ns	r
x Rate vrmative tax rate set Turnover D CE post-tax (normative tax rate) DCE post-tax hors GW (normative tax rate) DE		ns ns -34.9%	ns ns -35.7%	ns -38.0%	ns -38.1%	ns ns	ns 63.9%	ı 17.9
x Rate rmative tax rate set Turnover DCE post-tax (normative tax rate) DCE post-tax hors GW (normative tax rate) DE EBT RATIOS	- - - 12/16	ns ns -34.9% 12/17	ns ns -35.7% 12/18	ns -38.0% 12/19	ns -38.1% 12/20	ns ns 12/21e	ns 63.9% 12/22e	r r 17.9' 12/23 -98'
x Rate rmative tax rate set Turnover OCE post-tax (normative tax rate) DCE post-tax hors GW (normative tax rate) DE EBT RATIOS saring		ns ns -34.9%	ns ns -35.7% 12/18 -97%	ns -38.0% 12/19 ns	ns -38.1% 12/20 -95%	ns ns 12/21e -92%	ns 63.9% 12/22e -95%	17.9 17.9 12/2 -98
x Rate rmative tax rate set Turnover DCE post-tax (normative tax rate) DCE post-tax hors GW (normative tax rate) DE EBT RATIOS	- - - 12/16	ns ns -34.9% 12/17	ns ns -35.7% 12/18	ns -38.0% 12/19	ns -38.1% 12/20	ns ns 12/21e	ns 63.9% 12/22e	17.9 12/2 :



Valuation method

Our target prices are established on a 12-month timeframe and we use three valuation methods to determine them. First, the discounting of available cash flows using the discounting parameters set by the Group and indicated on ODDO BHF' website. Second, the sum-of-the-parts method based on the most pertinent financial aggregate depending on the sector of activity. Third, we also use the peer comparison method which facilitates an evaluation of the company relative to similar businesses, either because they operate in identical sectors (and are therefore in competition with one another) or because they benefit from comparable financial dynamics. A mixture of these valuation methods may be used in specific instances to more accurately reflect the specific characteristics of each company covered, thereby fine-tuning its evaluation.

• Sensitivity of the result of the analysis/ risk classification:

The opinions expressed in the financial analysis are opinions as per a particular date, i.e. the date indicated in the financial analysis. The recommendation (cf. explanation of the recommendation systematic) can change owing to unforeseeable events which may, for instance, have repercussions on both the company and on the whole industry.

Our stock market recommendations

Our stock market recommendations reflect the RELATIVE performance expected for each stock on a 12-month timeframe. Outperform: performance expected to exceed that of the benchmark index, sectoral (large caps) or other (small and mid caps). Neutral: performance expected to be comparable to that of the benchmark index, sectoral (large caps) or other (small and mid caps). Underperform: performance expected to fall short of that of the benchmark index, sectoral (large caps) or other (small and mid caps).

• The prices of the financial instruments used and mentioned in this document are the closing prices.

 All publications by ODDO BHF concerning the companies covered and mentioned in this document are available on the research site: www.securities.oddobhf.com www.securities.oddo-bhf.com

Recommendation and target price changes history over the last 12 months for the company analysed in this report

Date	Reco	Price Target (USD)	Price (USD)	Analyst
05/11/21	Outperform	440.00	236.99	Martial Descoutures
13/09/21	Outperform	465.00	419.72	Martial Descoutures
06/08/21	Outperform	450.00	414.15	Martial Descoutures
26/02/21	Outperform	200.00	155.24	Martial Descoutures
01/12/20	Outperform	185.00	141.57	Martial Descoutures
17/11/20	Outperform	121.00	93.07	Martial Descoutures
10/11/20	Outperform	111.00	74.83	Martial Descoutures

In accordance with Article 20 of European Regulation No. 596/2014 (Market Abuse Regulation), a list of all recommendations on any financial instrument or issuer that have been disseminated over the past twelve months is available by clicking on the following link www.securities.oddo-bhf.com www.securities.oddo-bhf.com

Recommendation split					
	Outperform	Neutral	Underperform		
(612)	57%	33%	10%		
(90)	57%	39%	4%		
(38)	68%	26%	5%		
(46)	72%	22%	7%		
	(90) (38)	(612) 57% (90) 57% (38) 68%	(612) 57% 33% (90) 57% 39% (38) 68% 26%		

Risk of conflict of interest:

Investment banking and/or Distribution	
Has ODDO BHF SCA or its affiliates managed or co-managed in the last 12 months a public offering of securities for the subject company/ies?	No
Has ODDO BHF SCA or its affiliates received compensation for investment banking services from the subject company/ies in the last 12 months or expects to receive or intends to seek compensation for investment banking services from the subject company/ies in the last 12 months?	No
Research contract between ODDO group & the issuer	
Have ODDO BHF SCA or its subsidiary ABN AMRO – ODDO BHF B.V. and the subject company/ies agreed that ABN AMRO - ODDO BHF B.V. or one of its parent companies will produce and disseminate investment recommendations on the subject company/ies as a service to the the subject company/ies?	No
Liquidity provider agreement and market-making	
At the date of the distribution of this report, does ODDO BHF SCA or its affiliates act as a market maker or has ODDO BHF SCA or its affiliates signed a liquidity provider agreement with the subject company/ies?	No
Significant equity stake	
Does ODDO BHF SCA or its subsidiary ABN AMRO – ODDO BHF B.V. own 1% or more of any class of common equity securities of the subject company/ies?	No
One or more affiliates of ODDO BHF SCA, other than ABN AMRO – ODDO BHF B.V., from time to time may own 1% or more of a class of common equity securities of the subject company/ies.	
Does ODDO BHF SCA or its subsidiary ABN AMRO – ODDO BHF B.V., own a net long or short position of 0.5% or more of any class of common equity securities of the subject company/ies?	No
Does the subject company beneficially own 5% or more of any class of common equity of ODDO BHF SCA or its subsidiary ABN AMRO – ODDO BHF B.V.?	No
Disclosure to Company	
Has a copy of this report ; with the target price and/or rating removed, been presented to the subject company/ies prior to its distribution, for the sole purpose of verifying the accuracy of factual statements ?	No
Have the conclusions of this report been amended following disclosure to the company/ies and prior its distribution?	No
Additional material conflicts	
Is ODDO BHF SCA or its affiliates aware of any additional material conflict of interest?	No
Personal conflicts of interest	
Have those responsible for the drafting of the present document acquired securities from the issuer concerned by the present financial analysis?	No
Have those responsible for the drafting of the present document received remuneration directly linked to investment firm service transactions or any other kind of transaction they carry out or any trading commissions they, or any legal person who is part of the same group, receive?	No

Statement of conflict of interests of all companies mentioned in this document may be consulted on ODDO RHF. www.securities.oddo.bhf.com

This is a non-contractual document, it is strictly for the private use of the recipient, and the information it contains is based on sources we believe to be reliable, but whose accuracy and completeness cannot be guaranteed. The opinions given in the document reflect our appraisal at the time of publication and may therefore be revised at a later date.

Disclaimer:

Disclaimers for Distribution by ODDO BHF SCA to Non-United States Investors:

This research publication is produced by ODDO BHF Corporates & Markets, a division of ODDO BHF SCA ("ODDO"), which is licensed by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the Autorité des Marchés Financiers ("AMF").

The research, when distributed outside of the U.S., is intended exclusively for non-U.S. customers of ODDO and cannot be divulged to a third-party without prior written consent of ODDO. This document is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment. This research has been prepared in accordance with regulatory provisions designed to promote the independence of investment research. "Chinese walls" (information barriers) have been implemented to avert the unauthorized dissemination of confidential information and to prevent and manage situations of conflict of interest. This research has been prepared in accordance with French regulatory provisions designed to promote the independence of investment research. The recommendation presented in this document is reviewed and updated at least quarterly following each Quarterly Report published by the issuer that is the subject of this Research Report.

At the time of publication of this document, ODDO and/or one of its subsidiaries may have a conflict of interest with the issuer(s) mentioned. While all reasonable effort has been made to ensure that the information contained is not untrue or misleading at the time of publication, no representation is made as to its accuracy or completeness and it should not be relied upon as such. Past performances offer no guarantee as to future performances. All opinions expressed in the present document reflect the current context which is subject to change without notice. The views expressed in this Research Report accurately reflect the analyst's personal views about the subject securities and/or issuers and no part of his compensation was, is, or will be directly related to the specific views contained in the Research Report. This Research Report does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice.

This Research Report is for institutional investors only. It may not contain information necessary for others to make investment decisions. Consult your financial adviser or an investment professional if you are not an institutional investor.

Disclaimers for Distribution by ODDO BHF New York Corporation to United States Investors:

This Research Report is produced by ODDO BHF Corporates & Markets, a division of ODDO. This research is distributed to U.S. investors exclusively by ODDO BHF New York Corporation ("ONY"), MEMBER: FINRA/SIPC, and is intended exclusively for U.S. customers of ONY and cannot be divulged to a third-party without prior written consent of ONY. This document is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment. This research has been prepared in accordance with regulatory provisions designed to promote the independence of investment research. "Chinese walls" (information barriers) have been implemented to avert the unauthorized dissemination of confidential information and to prevent and manage situations of conflict of interest. This research has been prepared in accordance with French regulatory provisions designed to promote the independence of investment research. The recommendation presented in this document is reviewed and updated at least quarterly following each Quarterly Report published by the issuer that is the subject of this Research Report.

At the time of publication of this document, ODDO, and/or one of its subsidiaries may have a conflict of interest with the issuer(s) mentioned. While all reasonable effort has been made to ensure that the information contained is not untrue or misleading at the time of publication, no representation is made as to its accuracy or completeness and it should not be relied upon as such. Past performances offer no guarantee as to future performances. All opinions expressed in the present document reflect the current context which is subject to change without notice. The views expressed in this Research Report accurately reflect the analyst's personal views about the subject securities and/or issuers and no part of his compensation was, is, or will be directly related to the specific views contained in the Research Report. This Research Report does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice.

This Research Report is for institutional investors only. It may not contain information necessary for others to make investment decisions. Consult your financial adviser or an investment professional if you are not an institutional investor.

Disclosures Required by United States Laws and Regulations:

Rule 15a-6 Disclosure: Under Rule 15a-6(a)(3), any transactions conducted by ODDO, and/or one of its subsidiaries with U.S. persons in the securities described in this foreign research must be effected through ONY. As a member of FINRA, ONY has reviewed this material for distribution to U.S. persons as required by FINRA Rules 2241(h) applicable to dissemination of research produced by its affiliate ODDO.

FINRA Disclosures:

• Neither ONY, ODDO, nor ODDO BHF Corporates & Markets beneficially owns 1% or more of any class of common equity securities of the subject company.

• The research analyst of ODDO BHF Corporates & Markets, at the time of publication of this research report, is not aware, nor does he or she know or have reason to know of any actual, material conflict of interest of himself or herself, ODDO, ODDO BHF Corporates & Markets or ONY, except those mentioned in the paragraph entitled "Risks of Conflicts of Interest."

• ODDO BHF Corporates & Markets or ODDO may receive or seek compensation for investment banking services in the next 3 months from the subject company of this Research Report, but ONY would not participate in those arrangements.

• Neither ONY, ODDO, ODDO BHF Corporates & Markets has received compensation from the subject company in the past 12 months for providing investment banking services except those mentioned in the paragraph of "Risks of Conflict of Interest"."

Neither ONY, ODDO, ODDO BHF Corporates & Markets has managed or co-managed a public offering of securities for the subject company in the past 12 months except those mentioned in the paragraph of "Risk of Conflict of Interest".

• ONY does not make (and never has made) markets and, accordingly, was not making a market in the subject company's securities at the time that this research report was published.

Regulation AC:

ONY is exempt from the certification requirements of Regulation AC for its distribution to a U.S. person in the United States of this Research Report that is prepared by an ODDO BHF Corporates & Markets research analyst because ODDO has no officers or persons performing similar functions or employees in common with ONY and ONY maintains and enforces written policies and procedures reasonably designed to prevent it, any controlling persons, officers or persons performing similar functions, and employees of ONY from influencing the activities of the third party research analyst and the content of research reports prepared by the third party research analyst.

Contact Information of firm distributing research to U.S. investors: ODDO BHF New York Corporation, MEMBER: FINRA/SIPC, is a wholly owned subsidiary of ODDO BHF SCA; Philippe Bouclainville, President (pbouclainville@oddony.com) 150 East 52nd Street New York, NY 10022 212-481-4002.