NEWS RELEASE

Silence Therapeutics Reports Half-Year 2021 Results

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- Full enrollment achieved for four cohorts of the APOLLO study of SLN360 in healthy individuals living with high levels of lipoprotein(a)
- Silence to host R&D Day in New York City on October 21, 2021

August 12, 2021

LONDON, Silence Therapeutics plc, AIM: SLN and Nasdaq: SLN ("Silence" or "the Company"), a leader in the discovery, development and delivery of novel short interfering ribonucleic acid (siRNA) therapeutics for the treatment of diseases with significant unmet medical need, today announced results for its half-year ended June 30, 2021.

Mark Rothera, President and CEO of Silence Therapeutics, commented: "The first half of 2021 was marked by strong execution, highlighted by the first clinical data from our proprietary mRNAi GOLD™ platform that successfully translated results from pre-clinical models into humans . In addition to achieving positive clinical data from our platform , w e started dosing patients in two wholly owned programs and added two new targets to our partnered pipelin e . Th e progress we made across both our proprietary and partnered pipelines underscores our firm commitment to maximize the substantial opportunity of our mRNAi GOLD ™ platform and enable 2-3 INDs per year beginning in 2023 ."

" L ooking ahead , we have now fully enrolled four cohorts of the APOLLO study of SLN360 in healthy individuals living with high levels of Lp (a) and we anticipate topline data in the first quarter of 2022. We look forward to

discussing the progress of our SLN360 and SLN124 programs a s well as our broader pipeline in more detail during our R&D Day on Thursday, October 21 st in New York City."

Half-Year 2021 and Recent Corporate Highlights

Proprietary P ipeline

SLN360

- Started dosing patients and completed enrollment in four cohorts of the APOLLO phase 1 single-ascending dose study of SLN360 in healthy individuals living with high levels of lipoprotein(a), or Lp(a), a genetically determined cardiovascular risk factor affecting around 20% of the world's population. The APOLLO study protocol includes the option to add a fifth cohort if the Company wants to further evaluate the clinical profile of SLN360.

SLN124

- Announced positive topline results from the GEMINI healthy volunteer study of SLN124, an siRNA targeting TMPRSS6, a gene that limits the liver's ability to produce the body's central iron regulator – hepcidin. The 8-week, randomized, double-blind, placebo-controlled, single-ascending dose study of SLN124 demonstrated safety and proof-of-mechanism to support the ongoing SLN124 GEMINI II phase 1 program in patients with thalassemia and myelodysplastic syndrome (MDS). Data from the healthy volunteer study showed:
    - All doses of SLN124 (1.0, 3.0 and 4.5 mg/kg doses) were safe and generally well-tolerated with no serious or severe treatment emergent adverse events (TEAEs) or TEAEs leading to withdrawal.
    - Following a single dose, SLN124 increased average hepcidin up to approximately four-fold and reduced serum iron by around 50%.
    - Effects on hepcidin and iron appear to be dose dependent and were still observed at the end of the 8-week study at all dose levels, indicating a sustained and long duration of action.
- Started dosing patients in the GEMINI II phase 1 single-ascending dose studies of SLN124 for thalassemia and MDS.
- Presented preclinical data highlighting the potential of SLN124 to address a range of hematological conditions characterized by iron dysregulation at the European Haematology Association (EHA) Congress.
    - A poster entitled, Non-clinical safety of SLN124, a GalNAc conjugated 19-mer double stranded siRNA targeting TMPRSS6 facilitating evaluation in clinical studies, showed the strong preclinical safety profile of SLN124 that is consistent with clinical results reported from the GEMINI healthy volunteer study.

- A second poster entitled, Anti-TMPRSS6 RNAi Therapy as a Novel Treatment Option for Polycythaemia Vera (PV), highlighted the potential for SLN124 to address broader hematological diseases by controlling hepcidin expression.

Partnered P ipeline

- Started work on a second undisclosed target with AstraZeneca and are on-track to initiate work on a total of five disease targets within the first three years of the siRNA collaboration for cardiovascular, renal, metabolic, and respiratory diseases.
- Initiated work with Mallinckrodt on a third and final target covered under the collaboration for complement-mediated diseases and began IND-enabling studies for SLN501, an siRNA targeting C3.

New A ppointments

- Appointed Dr. Michael H. Davidson to the Silence Board of Directors as a Non-Executive Director and Craig Tooman to the Executive Leadership Team as Chief Financial Officer.

Upcoming Events and Anticipated Data Milestones

- Silence will host an R&D day in New York City on the morning of Thursday, October 21, 2021. The event will be webcasted live for those unable to attend in-person. More information will be made available via press release closer to the date.
- Additional results from the GEMINI healthy volunteer study of SLN124 will be presented at an upcoming medical congress, pending abstract acceptance.
- Topline data from the APOLLO phase 1 single-ascending dose study of SLN360 in people with high Lp(a) is now anticipated in the first quarter of 2022 versus the second half of 2021. The Company remains on-track to start phase 2 development in the second half of 2022 pending regulatory discussions.
- Topline data from the GEMINI II phase 1 single-ascending dose studies of SLN124 in people with thalassemia and MDS is now anticipated in the third quarter of 2022 versus the second half of 2021 primarily due to COVID-19.

Financial Highlights f or the Half-Year E nded June 30, 2021

Craig Tooman, CFO of Silence Therapeutics, commented: “During the first half of 2021, we were successful in completing an oversubscribed £30.8 million private placement led by top-tier U.S. institutional healthcare funds. We

further improved our cash position with the receipt of approximately £33.7 million of non-dilutive capital from our collaboration partners. The £81.2m in cash, cash equivalents, and term deposits as of June 30, 2021 positions us well to advance our proprietary technology platform."

- Raised £30.8m net proceeds from an oversubscribed private placement led by top-tier U.S. institutional healthcare funds.
- Revenues from collaborations were £5.8 million compared to £1.1 million in the first half of 2020, primarily driven by the AstraZeneca and Mallinckrodt collaborations.
- Research and development (R&D) expenses increased to £15.6m compared to £10.2m in the first half of 2020. The increase is primarily a result of investment in experienced personnel and clinical trial expenses related to the advancement of our proprietary programs, SLN360 and SLN124.
- Administrative expenses increased to £9.1m compared to £5.2m in the first half of 2020, primarily due to increased investment in support activities for pipeline growth, as well as requirements of being a public company dual listed on AIM and Nasdaq.
- As of June 30, 2021, we had cash, cash equivalents and term deposits of £81.2 million, compared to approximately £37.4 million at the end of December 31, 2020.

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About Silence Therapeutics

Silence Therapeutics is developing a new generation of medicines by harnessing the body's natural mechanism of

RNA interference, or RNAi, to inhibit the expression of specific target genes thought to play a role in the pathology of diseases with significant unmet need. Silence's proprietary mRNAi GOLD™ platform can be used to create siRNAs (short interfering RNAs) that precisely target and silence disease-associated genes in the liver, which represents a substantial opportunity. Silence's wholly owned product candidates include SLN360 designed to address the high and prevalent unmet medical need in reducing cardiovascular risk in people born with high levels of lipoprotein(a) and SLN124 designed to address iron-loading anemia conditions. Silence also maintains ongoing research and development collaborations with AstraZeneca, Mallinckrodt Pharmaceuticals, and Takeda, among others. For more information, please visit **https://www.silence-therapeutics.com/**.

Forward-Looking Statements

Certain statements made in this announcement are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and other securities laws, including with respect to the Company's clinical and commercial prospects and the anticipated timing of data reports from the Company's clinical trials. These forward-looking statements are not historical facts but rather are based on the Company's current expectations, estimates, and projections about its industry; its beliefs; and assumptions. Words such as 'anticipates,' 'expects,' 'intends,' 'plans,' 'believes,' 'seeks,' 'estimates,' and similar expressions are intended to identify forward-looking statements. These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the Company's control, are difficult to predict, and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements, including those risks identified in the Company's most recent Admission Document and its amended Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission on April 29, 2021. The Company cautions security holders and prospective security holders not to place undue reliance on these forward-looking statements, which reflect the view of the Company only as of the date of this announcement. The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made. The Company will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances, or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

Conference Call

Company management will host a live webcast to discuss its half-year 2021 results and recent business performance today, August 12, 2021 at 8:00 a.m. EDT / 13:00 BST.

Details of the webcast and conference call:

Dial-in details:
New York, United States: +1 646 741 3167

United States: 1 877 870 9135
London, United Kingdom: +44 2071 928338
United Kingdom: 08002796619

Passcode: 9869230

Webcast link: **https://edge.media-server.com/mmc/p/g85x6hug**

Chief Executive Officer's Report

In January I said this would be a transformational year for Silence. Within five months we delivered the first clinical data from our proprietary mRNAi GOLD™ platform that successfully translated the results of pre-clinical models into humans. I also set out our path to value creation. We must maximize the substantial opportunity of our mRNAi GOLD™ platform to target disease associated genes in the liver – rapidly and effectively - through a combination of building and advancing our proprietary as well as our partnered pipelines. We made strong progress advancing both in the first half of the year and remain on-track to deliver 2-3 INDs per year from 2023.

Delivering our strategy

In addition to achieving positive clinical data with our proprietary mRNAi GOLD™ platform, we started dosing patients in two wholly owned phase 1 clinical programs – the APOLLO single-ascending dose study of SLN360 for cardiovascular disease due to high levels of lipoprotein(a), or Lp(a), and the GEMINI II single-ascending dose studies of SLN124 for rare iron loading anemia conditions, thalassemia and myelodysplastic syndrome (MDS).

We also advanced our partnered pipeline. We started work on a second undisclosed target with AstraZeneca and are on-track to initiate work on a total of five targets within the first three years of our collaboration for cardiovascular, renal, metabolic, and respiratory diseases. Under our Mallinckrodt collaboration for complement-mediated diseases, we started work on a third target and initiated IND-enabling studies for the complement pathway C3 targeting program.

We achieved all this despite the ongoing challenges of COVID-19, which underscores the focus and commitment of our team to control what we can control so we can maximize our mRNAi GOLD™ platform and ultimately bring life-changing medicines to patients as quickly as possible.

Executing our clinical pipeline

While thousands of clinical trials have been substantially delayed because of COVID-19, with slow trial recruitment

being a significant cause, we have been successful in implementing a number of mitigation strategies to minimize this impact.

This has worked particularly well for the SLN360 single-ascending dose study where we started dosing patients in February and have now fully enrolled four cohorts at US, European and Australian sites. The protocol has a post-dosing follow-up period of around five months to assess duration of action. We now anticipate reporting topline data from the four cohorts in the first quarter of 2022 versus the second half of 2021. Pending regulatory discussions, we remain well positioned to start phase 2 development in the second half of next year.

The impact of COVID-19 on the SLN124 program for thalassemia and MDS is more complex. We are thrilled that we were able to report positive topline data in the SLN124 healthy volunteer study in May. In addition to being the first clinical data from our mRNAi GOLD™ platform, the study demonstrated safety and proof-of-mechanism to support the ongoing SLN124 single-ascending dose studies in patients with thalassemia and MDS. While it is imperative that we address rare diseases in developing countries where there is such a high unmet need, these are also the areas hardest hit by COVID-19. For the SLN124 patient studies, we selected multiple sites across Asia, Middle East and Europe where thalassemia and MDS are most prevalent, however, some key sites have not yet been activated due to COVID-19 surges. We are uncertain today how the situation will evolve and therefore need to be more conservative with our timelines. We are now guiding that both of the SLN124 single-ascending dose studies in thalassemia and MDS will readout in third quarter of 2022 versus the second half of 2021. We are looking to add further sites as a contingency and continuing to work closely with local patient advocacy organizations to inform and educate patients about the trials to expedite the process.

Beyond our evaluation of SLN124 for thalassemia and MDS, the healthy volunteer study showed the potential for SLN124 to become a franchise that is much broader than these two indications. We learned that SLN124 is safe and effective in increasing the expression of hepcidin – which is the master regulator of iron balance in the body. Through this approach, we believe SLN124 has the potential to address a range of hematological conditions characterized by iron imbalance.

We look forward to discussing the continued progress of our SLN360 and SLN124 clinical programs as well as our broader pipeline in more detail during our R&D Day on Thursday, October 21st in New York City. We will have a live webcast of the meeting for those unable to attend in-person.

Funded for growth

The first half of the year highlighted the value of leveraging a hybrid business model. In addition to completing an oversubscribed £30.8m private placement led by top-tier U.S. institutional healthcare funds, we received £33.7m in non-dilutive capital from our collaboration partners. We ended June with £81.2m in cash, cash equivalents and term

deposits, positioning us well to advance our clinical pipeline and deliver on our goal of 2-3 INDs per year beginning in 2023.

Achieving our mission

We have never been better placed to deliver on our mission to transform the lives of patients around the world through our precision engineered medicines and drive positive change for the communities around us. Thank you to our staff for their hard work, particularly through the COVID-19 era, and to our shareholders for your continued support. I look forward to updating you on the further implementation of our strategy in due course.

Mark Rothera

Chief Executive Officer

Condensed consolidated income statement (unaudited)

	Six months ended		Year ended
£000s (except per share information)	June 30, 2021	June 30, 2020	December 31, 2020
Revenue	5,845	1,146	5,479
Cost of sales	(3,362)	-	(3,762)
Gross profit	2,483	1,146	1,717
Research and development costs	(15,625)	(10,179)	(20,209)
Administrative expenses	(9,126)	(5,160)	(13,983)
Other (losses)/gains - net	-	-	(3,372)
Operating loss	(22,268)	(14,193)	(35,847)
Finance and other expenses	(312)	-	(323)
Finance and other income	2	864	129
Loss for the period before taxation	(22,578)	(13,329)	(36,041)
Taxation	2,530	2,300	3,494
Loss for the period after taxation	(20,048)	(11,029)	(32,547)
Loss per ordinary equity share (basic and diluted)	(22.8) pence	(13.7) pence	(39.8) pence

Condensed consolidated balance sheet (unaudited)

	June 30, 2021 £000s	June 30, 2020 £000s	December 31, 2020 £000s
Non-current assets			
Property, plant and equipment	1,308	832	1,127
Goodwill	7,763	8,237	8,125
Other intangible assets	7	28	17
Financial assets at amortized cost	301	293	303
	9,379	9,390	9,572
Current assets			
Cash and cash equivalents	71,238	10,322	27,449
Derivative financial instrument	-	-	1,492
Financial assets at amortized cost – term deposit	10,000	40,021	10,000

R&D tax credit receivable	6,066	5,360	3,536
Other current assets	3,604	2,067	4,616
Trade receivables	438	32,927	29,306
	91,346	90,697	76,399
Non-current liabilities			
Contract liabilities	(62,294)	(63,230)	(51,337)
	(62,294)	(63,230)	(51,337)
Current liabilities			
Contract liabilities	(6,717)	(4,507)	(17,042)
Trade and other payables	(7,868)	(4,711)	(8,192)
Lease liability	(179)	(15)	(341)
	(14,764)	(9,233)	(25,575)
Net assets	23,667	27,624	9,059
Capital and reserves attributable to the owners of the parent			
Share capital	4,487	4,141	4,165
Capital reserves	221,097	184,065	186,891
Translation reserve	1,766	2,331	2,218
Accumulated losses	(203,683)	(162,913)	(184,215)
Total shareholders equity	23,667	27,624	9,059

Source: Silence Therapeutics plc