



July 2020 / Research Report

REMOTE WORK AND OFFICE SPACE DE-DENSIFICATION EFFECT ON OFFICE DEMAND POST-COVID

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflects our current views only, is subject to change, and is not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). Outside the U.S. for Institutional investors only. In the United States and Canada, for institutional client and registered representative use only. Not for retail distribution. Further distribution of this material is strictly prohibited. In Australia and New Zealand: For Wholesale Investors only. *For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda.

Table of Contents

Table of Contents.....	2
1 / Work from Home Trends.....	3
2 / De-densification Trends	5
3 / Conclusion	7
Research & Strategy—Alternatives.....	8
Important Information.....	9

The opinions and forecasts expressed are those of the Alternatives Research & Strategy team and not necessarily those of DWS. All opinions and claims are based upon data at the time of publication of this article (July 2020) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

1 / Work from Home Trends

With the fast and forced adoption of work from home (WFH), several business leaders have commented on their success in operating remotely and claim to be reevaluating their future office space needs. Moreover, Fed Chairman Powell during his testimony to congress on June 17th, 2020 acknowledged that COVID-19 has accelerated changes that were already happening in the workspace which are expected to continue post pandemic.

An entire nation connected virtually during the COVID-19 lockdown with office workers adjusting to new “work routines” bounded by many space and connectivity limitations and inconveniences. Still, employees proved that work can get done even in a fully remote environment thanks to the advancements in digitization that happened over the past decade.

As a medical solution is found to the current pandemic, office workers will be able to return back to their pre-COVID work arrangements. An important question is whether workers are going back to the traditional office environment or are likely to prefer accommodations for more remote work. In our view, that will depend on two distinct factors: Their willingness and their ability to perform their work duties remotely. These factors will ultimately guide corporate decisions around space allocation going forward.

Willingness to work remotely

There are many recent surveys that have analyzed employees’ desire to work from home.

Gensler, an architectural firm, surveyed 2,300+ full-time U.S. office workers at companies of 100 or more people from April 16 to May 4, 2020. The survey found that only 12% of U.S. workers want to work from home full-time and another 18% want to work three to four days remotely. Before this experience, only one in 10 U.S. office workers had regularly worked from home, and less than a third previously had the option to work from home. The research found that people overwhelmingly want to return to the office. Most people want to return to the workplace, but with significant changes to address distancing as well as concerns over growing densification prior to the pandemic¹.

A GWL Realty Advisors (GWLRA) survey found 40% of office workers are finding working from home less productive and most desire to return to the office once COVID-19 is resolved. Most office workers have found things to like in the unusual times of the pandemic, whether avoiding a commute, spending more time with family, or being able to do focused work more effectively. Yet working from home has also created productivity challenges². Issues when working from home include slow and spotty connectivity, lack of equipment, and inability to collaborate with colleagues in a timely way. According to the GWLRA survey, 42% found they were more productive at home, albeit at a price. The survey showed 22% of those working from home were more productive because they were working more hours³. Therefore, work from home will likely be only partially adopted once the COVID-19 crisis runs its course.

Ability to Work Remotely

The ability to work remotely is a function of companies’ willingness to provide for it and functional limitations that do not allow for sustained work from home (e.g. SEC regulations and compliance limitations). In some jobs, working from home may increase the risk of data leaks and security. A recent analysis finds that only 37% of jobs in the U.S. can be performed entirely at home, with significant variation across cities and industries⁴. According

¹ Gensler, March 2020.

² GWL Realty Advisors Survey, May 2020.

³ GWL Realty Advisors Survey, May 2020.

⁴ How Many Jobs Can be Done at Home?, <https://brentneiman.com/research/DN.pdf>, May 2020.

RREEF America L.L.C forecasts

to the 2018 American Time Use Survey, less than a quarter of all full-time workers work at all from home on an average day, and even they typically spend well under half of their working hours at home.

There is significant variation across cities and industries. Table 1 reports the top five metropolitan statistical areas (from among the 100 largest, by employment) in terms of the share of jobs that could be done at home. More than 45% of jobs in San Francisco, San Jose, and Washington, DC could be performed at home. Most jobs in finance, corporate management, and professional and scientific services could plausibly be performed at home.

Table 1: Top five share of jobs that can be done at home (by metropolitan area and industry)

MSA (% work-from-home)	Industry (% work-from-home)
1. San Jose, CA – 51%	1. Educational Services – 83%
2. Washington, DC – 50%	2. Professional, Scientific, and Technical Services – 80%
3. Durham – 46%	3. Management of Companies and Enterprises – 79%
4. Austin, TX – 46%	4. Finance and Insurance – 76%
5. San Francisco, CA – 45%	5. Information – 72%

Source: BLS, <https://brentneiman.com/research/DN.pdf>, May 2020.

According to NAI Partners, a commercial real estate brokerage, most companies say the work from home policies popularized during the pandemic may lead to more remote work in coming years. Almost 60% of survey respondents said that they prefer employees in the office, but they recognize they may be required to implement long-term remote policies and allow some employees to work remotely⁵.

The Bottom Line of Working Remotely

For the work from home trend to be sustainable and acceptable long-term, there need to be benefits to employers. The benefits for employees are clear: Significant time savings from a lack of commute – more than an hour per day per employee, on average. These time savings have been spent on additional family time, sleep, and exercise. Furthermore, as the surveys suggested, most workers were just as productive working from home as they were in an office. For employers, the benefits of working from home have not been significant during the pandemic. But, there are potential real estate and payroll savings as well as talent recruitment and retention if implemented post-pandemic. However, those cost savings come at the expense of company culture, mentorship, and serendipitous collaboration.

As mentioned above, according to Gensler, only 30% of the employees were allowed to work from home pre-pandemic, and 10% of employees were actually working from home regularly⁶. Post-pandemic, 30% of the Gensler survey responders would prefer to work from home three to four days per week. According to an UGov survey⁷, 60% of companies are planning to encourage employees to work from home, therefore 18% of the U.S. workforce will likely work from home regularly. Net, this will amount to a net increase of 8% in employees working from home regularly.

⁵ NAI Partners Survey, May 2020.

⁶ NAI Partners Survey, May 2020.

⁷ UGov, June 2020.

Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect

2 / De-densification Trends

Over the past decade, we have seen office density rise substantially. Per our estimates, the average space used per employee declined by almost 10% from 2009 to 2019. Organizations have increasingly allocated less square footage to individual workstations. As a result, most office space is not configured to facilitate social and physical distancing.

Research argues that beyond 40% occupancy rate⁸, physical distancing cannot not be implemented without office layouts being redesigned. Two forces are at play. For some employees, if an office space does not adhere to the 'rules' then they will simply refuse to return to work (potentially supported by government decree). Employers, in the constant social media covered world in which we live, also need to be seen to be doing the 'right thing'. It is clear that safely re-entering the workplace will require a reversal of the densification trend, at least for the near-term.

We took a theoretical approach to analyze how much density is optimal to achieve physical distancing according to CDC⁹ guidelines. Assuming a 6-foot radius for each employee and a 30% load factor for common areas, bathrooms, mechanical, etc., each employee would require around 147 square feet of office space to achieve physical distancing. Using occupied stock divided by office-using employment as proxy, we estimate that the amount of square feet per person in the U.S. is currently about 159 square feet.

While, on average office tenants may comply with the CDC guidelines for physical distancing, the reality is different. Many tenants across the U.S. are likely short of the necessary space if all employees return back to the office. As of mid-May, the JLL occupancy planning team had developed social distancing plans for approximately 150 million square feet of their clients' real estate portfolios. Among clients for whom they had developed social distancing plans, 49% reported that they were losing 50% capacity or more on their floors to accommodate for social distancing¹⁰.

As illustrated in Figure 1, assuming a normal distribution, 50% of tenants with an average of square feet per person equal to the CDC guideline (147 SF/person) would need additional space. At the same time, tenants that have more than enough space to meet the physical distance guidelines most likely would not make changes in their space needs as their layout is driven by company-specific space requirements. According to SunTrust, companies would require more than 20% increase in office space per employee to achieve the range that allows for proper social distancing¹¹.

⁸ <https://www.burohappold.com/articles/social-distancing-in-the-workplace/>, April 2020.

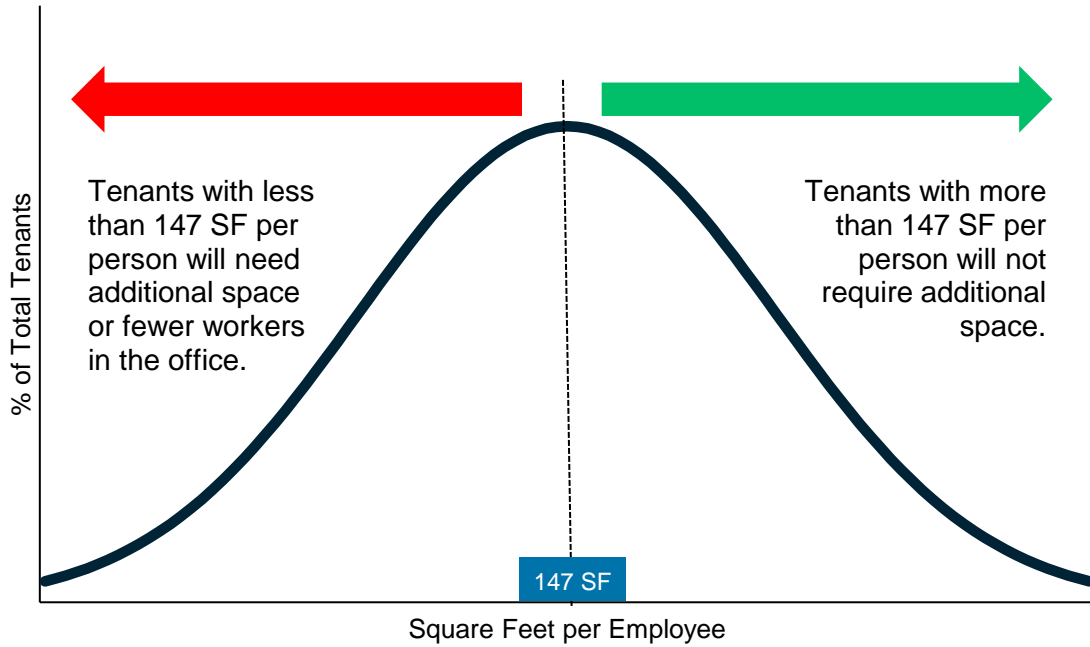
⁹ CDC stands for Centers for Diseases Control and Prevention.

¹⁰ JLL, May 2020.

¹¹ SunTrust Robinson Humphrey, June 2020.

Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect

Figure 1: Illustrative tenants' space allocation of 147 square feet per employee (CDC guideline for physical distancing)



Source: RREEF America L.L.C. May 2020.

3 / Conclusion

Many investors are concerned that the work from home trend will obviate the need for office space. However, most companies will likely need to de-densify their existing space and may use work from home as a way to reduce density

Combining the effects of work from home and de-densification, we calculate that in a scenario in which 18% of the workforce works remotely, companies may have to increase their space allocation to accommodate physical distancing. This could result in an increase of 9% in office demand (Table 2). As many employees remain reluctant to return to the office until a medical solution for COVID-19 is found, this will likely not materialize immediately. However, our analysis suggests that the net effect of working-from-home and de-densification may be accretive, or at least not destructive, to office demand over the longer term.

Table 2: Post-COVID change in office space requirements per 100 employees

	Pre-COVID	Post-COVID	Change
Employees	100	100	-
% Work From Home	10%	18%	+8%
Office Employees	90	82	-9%
Space/Worker	159	191	+20%
Total Space Required	14,310	15,646	+9%

Source: BLS, Gensler, CBRE-EA, SunTrust Robinson Humphrey, DWS. May 2020.

RREEF America L.L.C forecasts

Research & Strategy—Alternatives

OFFICE LOCATIONS:

Chicago

222 South Riverside Plaza
34th Floor
Chicago
IL 60606-1901
United States
Tel: +1 312 537 7000

Frankfurt

Taunusanlage 12
60325 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London

Winchester House
1 Great Winchester Street
London EC2N 2DB
United Kingdom
Tel: +44 20 754 58000

New York

875 Third Avenue
26th Floor
New York
NY 10022-6225
United States
Tel: +1 212 454 3414

San Francisco

101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore

One Raffles Quay
South Tower
20th Floor
Singapore 048583
Tel: +65 6538 7011

Tokyo

Sanno Park Tower
2-11-1 Nagata-cho
Chiyoda-Ku
18th Floor
Tokyo
Japan
Tel: +81 3 5156 6000

TEAM:

Global

Kevin White, CFA
Co-Head of Research & Strategy
kevin.white@dws.com

Simon Wallace
Co-Head of Research & Strategy
simon.wallace@dws.com

Gianluca Minella
Head of Infrastructure Research
gianluca.minella@dws.com

Americas

Brooks Wells
Head of Research, Americas
brooks.wells@dws.com

Liliana Diaconu, CFA
Office Research
liliana.diaconu@dws.com

Ross Adams
Industrial Research
ross.adams@dws.com

Ryan DeFeo
Property Market Research
ryan-c.defeo@dws.com

Ana Leon
Retail Research
ana.leon@dws.com

Joseph Pecora, CFA
Apartment Research
joseph.pecora@dws.com

Europe

Tom Francis
Property Market Research
tom.francis@dws.com

Martin Lippmann
Property Market Research
martin.lippmann@dws.com

Florian van-Kann
Property Market Research
florian.van-kann@dws.com

Aizhan Meldebek
Infrastructure Research
aizhan.meldebek@dws.com

Siena Golan
Property Market Research
siena.golan@dws.com

Asia Pacific

Koichiro Obu
Head of Research & Strategy, Asia
Pacific
koichiro-a.obu@dws.com

Natasha Lee
Property Market Research
natasha-j.lee@dws.com

Seng-Hong Teng
Property Market Research
seng-hong.teng@dws.com

Hyunwoo Kim
Property Market Research
hyunwoo.kim@dws.com

Important Information

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for DWS or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither DWS nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the DWS, the Issuer or any office, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person.

The views expressed in this document constitute DWS Group's judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

Investments are subject to risk, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time.

Investment in real estate may be or become nonperforming after acquisition for a wide variety of reasons. Non-performing real estate investment may require substantial workout negotiations and/ or restructuring. Environmental liabilities may pose a risk such that the owner or operator of real property may become liable for the costs of removal or remediation of certain hazardous substances released on, about, under, or in its property. Additionally, to the extent real estate investments are made in foreign countries, such countries may prove to be politically or economically unstable. Finally, exposure to fluctuations in currency exchange rates may affect the value of a real estate investment.

Investments in Real Estate are subject to various risks, including but not limited to the following:

- _ Adverse changes in economic conditions including changes in the financial conditions of tenants, buyer and sellers, changes in the availability of debt financing, changes in interest rates, real estate tax rates and other operating expenses;
- _ Adverse changes in law and regulation including environmental laws and regulations, zoning laws and other governmental rules and fiscal policies;
- _ Environmental claims arising in respect of real estate acquired with undisclosed or unknown environmental problems or as to which inadequate reserves have been established;
- _ Changes in the relative popularity of property types and locations;
- _ Risks and operating problems arising out of the presence of certain construction materials; and
- _ Currency / exchange rate risks where the investments are denominated in a currency other than the investor's home currency.

An investment in real estate involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/ units and their derived income may fall or rise.

War, terrorism, economic uncertainty, trade disputes, public health crises (including the recent pandemic spread of the novel coronavirus) and related geopolitical events could lead to increased market volatility, disruption to US and world economies and markets and may have significant adverse effects on the global real estate markets.

This marketing communication is intended for professional clients only.

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they operate their business activities. The respective legal entities offering products or services under the DWS brand are specified in the respective contracts, sales materials and other product information documents. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively "DWS") are communicating this document in good faith and on the following basis.

This document has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. Before making an investment decision, investors need to consider, with or without the assistance of an investment adviser, whether the investments and strategies described or provided by DWS Group, are appropriate, in light of their particular investment needs, objectives and financial circumstances. Furthermore, this document is for information/discussion purposes only and does not constitute an offer, recommendation or solicitation to conclude a transaction and should not be treated as giving investment advice.

The document was not produced, reviewed or edited by any research department within DWS and is not investment research. Therefore, laws and regulations relating to investment research do not apply to it. Any opinions expressed herein may differ from the opinions expressed by other legal entities of DWS or their departments including research departments. The information contained in this document does not constitute a financial analysis but qualifies as marketing communication. This marketing communication is neither subject to all legal provisions ensuring the impartiality of financial analysis nor to any prohibition on trading prior to the publication of financial analyses.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. The forward looking statements expressed constitute the author's judgment as of the date of this document. Forward looking statements involve significant elements of subjective judgments and analyses and changes thereto and/ or consideration of different or additional factors could have a material impact on the results indicated. Therefore, actual results may vary, perhaps materially, from the results contained herein. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements or to any other financial information contained in this document. Past performance is not guarantee of future results.

We have gathered the information contained in this document from sources we believe to be reliable; but we do not guarantee the accuracy, completeness or fairness of such information. All third party data are copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time. Furthermore, substantial fluctuations of the value of any investment are possible even over short periods of time. The terms of any investment will be exclusively subject to the detailed provisions, including risk considerations, contained in the offering documents. When making an investment decision, you should rely on the final documentation relating to any transaction.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid. DWS or persons associated with it may (i) maintain a long or short position in securities referred to herein, or in related futures or options, and (ii) purchase or sell, make a market in, or engage in any other transaction involving such securities, and earn brokerage or other compensation.

DWS does not give taxation or legal advice. Prospective investors should seek advice from their own taxation agents and lawyers regarding the tax consequences on the purchase, ownership, disposal, redemption or transfer of the investments and strategies suggested by DWS. The relevant tax laws or regulations of the tax authorities may change at any time. DWS is not responsible for and has no obligation with respect to any tax implications on the investment suggested.

This document may not be reproduced or circulated without DWS written authority. The manner of circulation and distribution of this document may be restricted by law or regulation in certain countries, including the United States.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

© 2020 DWS International GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated by the Financial Conduct Authority (Reference number 429806).

© 2020 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited and the content of this document has not been reviewed by the Securities and Futures Commission.

© 2020 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited and the content of this document has not been reviewed by the Monetary Authority of Singapore.

© 2020 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640) and the content of this document has not been reviewed by the Australian Securities Investment Commission.
© 2020 DWS Investments Australia Limited

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

For Investors in Canada.

No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein and any representation to the contrary is an offence. There are risks associated with an investment in the Fund. The materials provided herein are submitted on a confidential basis for use by a limited number of qualified purchasers solely in connection with the consideration of the purchase of these securities on a "private placement" basis and only in those jurisdictions to whom they may be lawfully offered for sale, and therein only by persons permitted to sell such securities. The securities described herein may only be transferred in accordance with resale restrictions under applicable securities laws and investors are advised to seek legal advice for the resale restrictions applicable to them. Information contained herein is qualified in its entirety by the Memorandum and investors are advised to refer to such Memorandum. These materials are not, and under no circumstances to be construed as, an advertisement or a public offering of the securities described herein. These materials may not be reproduced in whole or in part and its use for any purpose other than to evaluate an investment in the securities described herein is prohibited.

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.

© 2020 DWS Group GmbH & Co. KGaA. All rights reserved. I-076857-1 (07/20)

