Hogan Lovells

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The Law and Politics of Global Technology Deals

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Contents

Editorial: Dealing with regulatory issues in M&A transactions

In our Autumn issue of the Global Media and Communications Quarterly we focus on trends in mergers and acquisitions in the TMT industry.

As Don McGown and Mark Jones' article explores, the first half of 2015 has seen significant M&A activity, in particular in the TMT industry. However, the failure of the Comcast/Time Warner Cable illustrates the need for businesses to be aware of the antitrust and regulatory issues. Don and Mark analyse the issues and how to get in the best position for clearance. Our Washington partner, Logan Breed, then follows with a deep dive into the U.S. antitrust lessons from the failed Comcast/ Time Warner Cable merger.

Our next article is a guest contribution from Joshua Gans, Professor of Strategic Management at the University of Toronto, exploring the special impact of new entrants to the market and new or 'disruptive' technologies on competition and how this could affect the policies of the authorities when considering proposed mergers in the industry.

Federico Hernandez from our Mexico City office then looks back over the past year of M&A in the TMT industry in Mexico following the major reform of telecommunications and broadcasting law that came into force there a year ago, concluding that the reform has fostered the convergence of businesses in the TMT market, particularly the mobile market.

Winston Maxwell, Mark Parsons, Scott Loughlin and Marcus Schreibauer then provide a detailed cross-border "how-to" guide on data protection in M&A transactions, highlighting each step of the M&A process and how personal data issues can affect deal parameters together with best practices for dealing with those issues.

Next, Lisa Ellman, the co-chair of our Unmanned Aircraft Systems (UAS) Group (and formerly of the U.S. Department of Justice advising the Obama administration on domestic use of UAS) gives us her views on transactional trends on the UAS market and shares what it was like working with the Obama administration.

We then have two articles from our Asia TMT practice. The first explains explains developments in the liberalization of the rules relating to foreign investment in the e-commerce industry in China, with the availability of 100% foreign participation in online data processing and transaction processing services being a highlight. The second explains how China's new national security law has created uncertainty for foreign investments in China, including in the TMT sphere.

Finally, we close with an article explaining why parties might want to consider arbitration for international technology deals.

Winston Maxwell
Partner, Paris
T +33 1 5367 4847
winston.maxwell@hoganlovells.com

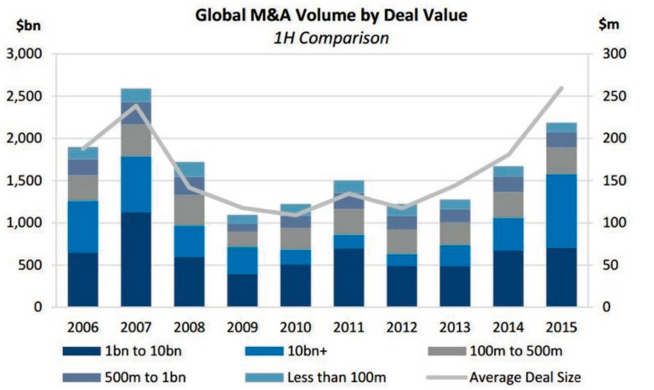
Trey Hanbury
Partner, Washington, D.C.
T +1 202 637 5534
trey.hanbury@hoganlovells.com

Penny Thornton
Senior Associate, London
T +44 20 7296 5665
penelope.thornton@hoganlovells.com

Convergence or consolidation in TMT – and how to deal with the antitrust issues

A vibrant M&A market

As the graphs below indicate, the first half of 2015 has been a busy one for mergers and acquisitions generally and in TMT in particular. The highest number of deals has been in the technology space; as reported by Dealogic, the data provider, these have exceeded 4,000 to date this year. The second biggest deal of the year has been in the telecom sector – Charter Communications' $79.6bn takeover of Time Warner Cable, following the failure of the original Comcast attempt to acquire TWC. (The antitrust aspects of the aborted Comcast/TWC deal are examined later in this journal.) When aggregated with the volume of deals in the telecom space (which has also been very active), some $450bn by value of TMT deals have occurred in this half year period, the highest amount since 2007, as confidence has returned to the markets.



Source: Dealogic

> The telecom market is seeing significant consolidation.

Source: Dealogic

Deal activity in the TMT sector has seen two principal themes: the drive for content and the need to acquire the latest and best technology. The telecom market is seeing significant consolidation, as operators seek to keep up with competitors through tie-ups that enable them to provide the best internet connectivity for mobile devices and also find better and accessible content to feed their networks.

As TMT businesses seek to grow, they have a choice on expansion through acquiring smaller or similar-sized competitors – to increase the range of services they offer, by perhaps moving into the Machine to Machine space, or to make their product more attractive to consumers by adding content to their internet, cable, or telephonic offerings. But acquisitions in this sector are not without risk. Rapid advances in technology and changes in consumer behaviour mean that only the best platforms survive and, while standing still is not an option, it is equally important that what appears an attractive asset is not yesterday's news. In addition, as in less quickly evolving markets, competition/antitrust and regulatory issues are key considerations. Transacting companies need clearance from regulators if competitors are going to be able to merge, and yet in many cases these mergers are opposed by other competitors who have lost out in the M&A scramble. Recent antitrust decisions around the world show the challenges faced by business combinations as corporates seek to consolidate or converge.

The need for businesses to be fully aware of antitrust and regulatory issues in M&A deals

There has been a mixed reception by antitrust authorities and other regulators to the latest wave of deals in the marketplace. On the one hand, recent completed U.S. deals like AT&T / Direct TV show that convergence is alive, albeit with conditions. On the other, the failure of the Comcast/Time Warner Cable deal because of antitrust and regulatory opposition from the DOJ and the FCC (an in-depth review of which is provided in Logan Breed's article) confirms that transactions representing dramatic consolidation may run into fatal antitrust challenges. The Applied Materials/Tokyo Electron deal in the semiconductor sector also failed because of antitrust concerns on the part of the DOJ in the U.S. and by Mofcom in China.

In Europe there are also conflicting messages. In France, Nokia has announced that it will acquire Alcatel-Lucent in a further market consolidation. Additionally, in the notoriously unprofitable French market for mobile operators, Altice recently offered to buy Bouygues but faced antitrust challenges since this would have reduced the main players in that market from 4 to 3. Bouygues has rejected the offer at the time of writing. The European Commission has just torpedoed the proposed merger between Telenor and Telia Sonera in Denmark, which would similarly have reduced the main mobile players from 4 to 3 in that market. "What the parties offered was not sufficient to avoid harm to competition in the Danish mobile markets" said the commission. In the UK, the combinations of BT with EE and O2 with Three (Hutchison Whampoa) remain subject to antitrust approval, saddled with this unhelpful precedent.

Clearly, businesses need to be well acquainted with antitrust and regulatory issues. Failed transactions will adversely affect investor perception and long-term corporate strategies. In the shorter term, deal certainty is important to ensure that public offers are supported by the target, and for both bidder and target more generally in order to avoid incurring significant deal costs without tangible return if a deal is ultimately blocked. Where a transaction raises major antitrust issues, this will also have material implications for the deal timetable, since in-depth antitrust reviews invariably last several months or longer and it will not normally be possible to close the deal until the review is finished. Businesses therefore need to consider the antitrust and industry-specific regulatory aspects very closely before proceeding with any transaction – a thorough upfront analysis by experts is time well spent.

Issues in public deals

This is especially true in public deals where committed funding is required when a deal is announced. For example, in the UK the Takeover Code requires a bidder to have financing in place before a firm intention to make an announcement of a cash offer for a target company under Rule 2.7 can be made; and the bidder's financial adviser must confirm in that announcement that resources are available to the bidder to satisfy the consideration in full. Many other jurisdictions, such as Ireland, Germany and Italy have similar rules about certainty of finance at the time an offer is made.

Moreover, in the UK under Rule 12 of the Takeover Code, where an in-depth (phase II) investigation commences under the EU or UK antitrust rules, an offer will automatically lapse. As a result, there can be significant pressure on a bidder to obtain antitrust consent in the initial (phase I) investigation; and a target will not wish to see itself 'put into play' and then find that the offer has fallen away. In deals raising material antitrust issues, this has led bidders to structure offers in such a way as to be a possible offer under Rule 2.4 of the UK Takeover Code, and then argue that the possible offer is sufficiently advanced for the EU or UK antitrust authorities to be able to review it and thus go through that review process in order that any antitrust concerns can be addressed but, importantly, avoiding the need for financing the offer at that stage.

A key part of the upfront analysis of antitrust issues relates to so-called remedies – that is, to identify if it is likely to be necessary to offer the antitrust authorities concessions in order to obtain clearance, for example, to dispose of a part of the business which is likely to be the source of the antitrust concern. Obviously, these remedies will need to be both sufficient to satisfy the authorities and commercially acceptable to the buyer. As part of the assessment of possible remedies, there will often need to be tactical considerations as to whether to offer them during the initial (phase I) investigation in order to avoid the further risks, cost and delay of an in-depth (phase II) investigation – or instead whether to take the transaction into the phase II investigation to keep alive the possibility of clearance without the need to give the remedies.

Issues in private deals

In private deals too, a thorough examination of the regulatory and antitrust risks and possible remedies to address any concerns at an early stage in the process is important to avoid wasted effort should it transpire that approvals cannot be obtained. Indeed, increasingly in auction processes, sellers will seek their own guidance on the antitrust aspects in relation to potential bidders, as well as looking for confirmation from bidders that they are free of antitrust concerns – and they will eliminate those bidders who in their judgment will find it hard to obtain antitrust clearances.

In this context, sellers are understandably worried that a failed auction may lead to their businesses being regarded as damaged goods and attract a lower price on any attempted resale. Buyers may thus need to undertake significant steps to address this concern. Most obviously, they may price their bid at a premium in order to compensate for the antitrust risk – for a bidder in the same industry there may be scope to do this if the deal offers synergies for it that are not available to other potential buyers. Buyers may also undertake an obligation to reimburse the seller with a significant sum (a reverse break fee) if the deal is not able to proceed due to antitrust concerns.

Alternatively or in addition, buyers in such a position may agree to so-called hell or high water obligations whereby they commit to offering the antitrust authorities all necessary remedies – without any qualification that such remedies must be reasonable from their perspective. Such remedy commitments might be to divest a business where the merger creates a significant competitive overlap (whether the disposal is made from their own group or from within the target group).

"Transactions representing dramatic consolidation may run into fatal antitrust challenges."

However, it is not a given that making such a hell or high water commitment will be acceptable to both sides. From the seller's perspective, it will represent delay and execution risk that may be unattractive. From the buyer's perspective, it may be too onerous a commitment to get comfortable with, since it will in effect be a promise to make a forced sale and one with a time limit for the disposal. In this scenario it will often be difficult for the buyer to obtain full value for the disposed business, particularly as the deadline for disposal approaches. In many jurisdictions, the process may also involve the imposition on the buyer of a supervising trustee tasked by the antitrust authority to monitor the business to be disposed in order to ensure that it is not being run down, and to oversee the divestment process. This will involve significant additional cost for the buyer and may affect the speed of the disposal and the identity of the ultimate purchaser. More fundamentally, if the business combination that the remedies disposal aims to prevent is at the heart of the buyer's rationale for the deal, the buyer may conclude that it is not worth taking on.

Hogan Lovells' capability to deal with these issues
With its leading global antitrust and regulatory practice, Hogan Lovells has significant experience in these issues and we are very well placed to assist you in the implementation of your antitrust and regulatory strategy, from up-front risk assessment to advocating the case to the regulatory authorities and if necessary agreeing and implementing successful remedy strategies with them in order to obtain clearance.

We offer you our expertise from over 45 offices worldwide and with the resources of a firm ranked in the top 20 law firms last year globally in M&A by both transaction size and deal volume. With antitrust teams in all the key jurisdictions – including the EU, the U.S. and China – we offer a one-stop shop for cross-border deals in order to be able to address these issues in a coordinated and effective way around the world. Our ability to support major M&A transactions is further enhanced by our genuine expertise in understanding the issues that arise in particular market sectors. This sector focus is not limited to antitrust. It includes other regimes that may require governmental or regulatory approval such as under foreign investment laws and also industry regulatory aspects such as in financial services, healthcare and TMT. Our legal specialists across these areas regularly work together, ensuring not only smooth and efficient transaction execution but also a coordinated strategic approach in front of regulators across all fronts and in all jurisdictions.

Find out more?
We would be happy to assist you in advising on issues early in the M&A process. Please contact your usual M&A or regulatory team contact in U.S./UK/elsewhere.

Don McGown
Partner, London
T +44 20 7296 5420
don.mcgown@hoganlovells.com

Mark Jones
Partner, London
T +44 20 7296 2428
mark.jones@hoganlovells.com

U.S. antitrust lessons from the proposed Comcast/TWC merger

Comcast's failed acquisition of Time Warner Cable ("TWC") presents a lesson in the types of antitrust harms that merger enforcers in the United States are willing to pursue. Using traditional "horizontal" merger analysis, the combination would have resulted in almost no reduction of head-to-head competition, as there were very few geographic areas in which the two companies were head-to-head rivals. Nevertheless, the enforcers, the Department of Justice's Antitrust Division ("DOJ") and the Federal Communications Commission ("FCC"), which have concurrent jurisdiction to review communications mergers, took a broader view of how harm should be analyzed and found the transaction would have significantly reduced competition – and in the face of that resistance, the parties abandoned the transaction. The demise of this deal represents a stark reminder that a lack of significant horizontal concerns does not automatically mean the deal will sail through the regulatory process if other complexities that would affect competition are present.

> "A lack of significant horizontal concerns does not automatically mean the deal will sail through."

Comcast and TWC are two of the nations' largest Multiple-System Operators ("MSOs"). With approximately 21.7 million video subscribers and 20.7 million broadband subscribers, Comcast is both the largest video and wired broadband Internet-access provider in the U.S. TWC is the fourth largest video provider and the third largest wired broadband Internet-access provider in the nation, with approximately 11.4 million video subscribers and 11.6 million broadband subscribers.

In addition to its traditional cable businesses, Comcast also owns NBCUniversal, Inc. ("NBCU"), which owns and operates American television networks, numerous cable channels, and a group of local stations in the U.S., as well as motion picture companies, several television production companies, and branded theme parks. Comcast and NBCU entered into a 51%/49% joint venture in 2011, and Comcast later acquired 100%

ownership of NBCU in 2013. The 2011 transaction was subject to rigorous regulatory review before the DOJ and FCC and only received clearance after Comcast agreed to extensive remedies.

Comcast and TWC announced the $45.2bn transaction on February 13, 2014. The combination would have given Comcast a 30% share of all video subscribers and a 57% share of all broadband Internet subscribers in the U.S. Comcast and TWC, however, largely do not have overlapping service areas. From the outset, the parties touted this fact and the many benefits that would stem from the transaction, but opposition from Congress, consumer groups, and content providers was swift and strong. The parties called off the transaction over one year later in April 2015.

The primary focus of the arguments made about the transaction's anticompetitive potential was not on the parties' horizontal overlaps, but rather on two ways in which Comcast could undermine competition using its power in vertical relationships. First, content providers were concerned that the new Comcast, with an even greater number of subscribers across the country, would hold them hostage in future carriage-fee negotiations, demanding lower rates for content or disadvantaging their channels over Comcast-owned channels (e.g., by placing them higher in channel lineups). Content providers feared that because carriage on Comcast's systems would be even more crucial to their business than ever before, they would have no choice but to accept Comcast's anticompetitive terms. This argument is based on the antitrust concept known as monopsony power, that is, the power of one buyer to control (e.g., by withholding purchases) the actions of its supplier in a way that is harmful to competition. At the extreme, if conditions imposed on the supplier are draconian enough to make it unprofitable, the seller may exit the business, thereby reducing competition. In the Comcast/TWC case, arguably such a reduction in competition could have benefitted Comcast because it has its own competitive content, so Comcast would have a strong incentive to use its monopsony power to the fullest extent possible.

The second concern related to broadband Internet service. DOJ, many consumer groups, and some in Congress were particularly concerned with the combined company's ability to control access to this service. With a post-transaction share of 57% broadband Internet services in the United States, DOJ alleged that Comcast would become an "unavoidable gatekeeper for Internet-based services that rely on a broadband connection to reach consumers."[1] This presented a potentially acute competitive problem because Comcast's video service increasingly competes with "over the top" ("OTT") video services such as Hulu, and those OTTs require fast, dependable broadband Internet access to compete effectively with Comcast. Well-publicized squabbles with Netflix, one of the largest deliverers of content via broadband Internet, over throttling, or slowing delivery of Netflix content, sparked concerns that Comcast would be able to do the same thing to other providers Comcast viewed as a threat to its traditional cable video services, including Sling, Amazon Instant Video, and HBO Go, among others. Comcast ultimately resolved the conflict with Netflix by reaching a commercial agreement on peering, but the concern persisted that with a post-transaction share of over 50% of broadband subscribers in the United States, Comcast would have the ability and incentive to demand increasingly greater fees from OTTs whose existence depends on Comcast's broadband service.

DOJ often addresses these kinds of vertical concerns by imposing conditions in a consent decree that mitigate the merged entity's ability to undermine competition. In fact, that is precisely how DOJ and FCC handled the vertical issues presented by the Comcast/NBCU deal in 2011. For example, Comcast was required to offer the same package of broadcast and cable channels to OTTs that it sells to traditional video programming distributors, and Comcast had to relinquish its management interest in Hulu. However, critics of the Comcast/TWC deal argued that such remedies were unacceptable here because Comcast had not lived up to all of its promises under the NBCU consent decree.[2] One of these promises was offering stand-alone broadband service to customers who did not want television service. The FCC fined Comcast in 2012 for failing to do so, and it fined the company again

1 DOJ, Antitrust Division, Press Release, "Comcast Corporation Abandons Proposed Acquisition of Time Warner Cable After Justice Department and The Federal Communications Commission Informed Parties of Concerns," April 24, 2015 http://www.justice.gov/atr/public/press_releases/2015/313429.htm

in 2013 for violating its agreement to group similar networks together in its channel lineup (e.g., all news networks would be grouped consecutively). The FCC found that Comcast had given a priority-listing location to its own network, CNBC, while placing competitors like Bloomberg in a less desirable slot. These examples, and others, caused critics concern that even if it were possible to design conditions to satisfy competitive issues, they would be ineffective because Comcast would fail to abide by them.[3]

In sum, the Comcast/TWC transaction may have passed muster using traditional horizontal merger analysis, but DOJ and FCC took a broader approach in reviewing the transaction and ultimately decided that its vertical effects would undermine competition. The complexity of the industry, Comcast's vertical integration of access services and content, and Comcast's regulatory history made the analysis far from straightforward. As the business models of technology, media and telecommunications companies continue to evolve and expand – and as those companies continue to move into each other's traditional products and service businesses – vertical issues like the ones that brought down the Comcast/TWC transaction are likely to become increasingly significant elements of the antitrust clearance process in the U.S. and around the world.

Logan M Breed
Partner, Washington
T +1 202 637 6407
logan.breed@hoganlovells.com

Meghan Edwards Ford Rissmiller
Associate, Washington
T +1 202 637 4658
meghan.rissmiller@hoganlovells.com

2 Senator Al Franken, Op Ed, "The Tide Is Turning Against Comcast's Proposal To Buy Time Warner Cable," TechCrunch, Apr. 20, 2015, http://techcrunch.com/2015/04/20/franken-on-comcast-time-warner-deal/.

3 See, e.g., Emily Steel, "Comcast's Track Record in Past Deals May Be Hitch for Merger With Time Warner Cable," New York Times, Apr. 21, 2015, http://www.nytimes.com/2015/04/22/business/media/6-senators-urge-rejection-of-comcast-time-warner-cable-deal.html?_r=0.

Mergers and disruptive innovation

The media industry is obsessed with disruption. The news media have been going through a decade and a half of decline – most notably in advertising revenues – that has caused many bankruptcies and also a rethink of how organizations, such as the *New York Times*, organize their businesses.[1] And despite all of this, new entrants abound. The same is true of larger infrastructure-based media businesses. The recent proposed merger between Comcast and Time Warner was surely part of a strategy to deal with the threat posed by the Internet as a distribution mechanism for content. But equally, it may have been motivated to ensure that online competitors could not build market share as the DOJ and FCC argued in opposing the merger.

In the business world, *disruption* is a catch-cry; something that business leaders live in fear of. To the antitrust lawyer, it may actually sound like a familiar process whereby monopoly power is undone by an entry into the market based on new technologies. But, in actuality, the conditions whereby new technologies may actually overturn incumbent market power can be special. In other words, the mere presence of what appear to be radical and inevitable new technologies may not be sufficient to overturn market leadership in an industry. And our expectations about whether that can happen play a critical role in how we might view mergers in industries. Specifically, when the conditions are right, even mergers that would look like consolidating to high concentration can be viewed as promoting competition because the resulting firms are disciplined and vulnerable to technological competition. But what have we learned about how likely those conditions are to arise?

> “The mere presence of what appear to be radical and inevitable new technologies may not be sufficient to overturn market leadership in an industry.”

1 Gans, Joshua S. (2016), Disruption: The New Dilemma, MIT Press: Cambridge (MA).

Dynamics and Innovation
At the heart of disruption is innovation. Innovation has always represented a challenge in antitrust circles precisely because the economics of it is not obvious. The “bigger is better” camp argue that the main challenge in encouraging innovation is appropriating sufficient rents from it and this cannot be done when those rents flow away due to competitive pressures. The “competitive spirit” camp argues, conversely, that there is no pressure to innovate unless firms face an existential threat from innovation brought about by new entrants. Both of these theories have shades of truth to them while having seemingly diametrically opposed views to how we should view horizontal mergers.

The economist’s answer to all this is “it’s complicated.” And that is because it is. But the broader question is: how hard is it to assess mergers when innovation plays a big role? In particular, do antitrust authorities have to abandon tools that do nicely for static environments when dynamics come to play?[2]

To understand this, I have to give you a sense of the “complications.” Suppose there is an industry with some incumbent firms and they are competing intensely. They also engage in innovation to come up with better products than their rivals. What motivates them? Without going into details yet, let’s call it a prize. That is, if they beat their rivals to a new product, they get a prize. This is likely to be determined by how much better the new product is and how easy it is to capture customers from rivals based on that product. Subtly, the prize, therefore, is not just the profits a firm gets if it “wins” the innovation race but also would take into account the amount that it would earn if it “lost” that race. In other words, for the firm, what spurs them to innovate is not just getting more profit than they currently have but also ensuring they don’t end up with less profit because someone else beat them to the punch.

So far so good, but this is not a world where we play a game and we all take home our winnings (if any). This is a world where the game will likely be played again and again. For any firm, this fact is going to impact on the prize they expect from innovating today. In particular, if conditions in the industry are such that innovation is hard and does not happen often, what

2 Gans, Joshua S. (2010), “When is Static Analysis a Sufficient Proxy for Dynamic Considerations? Reconsidering Innovation and Antitrust,” in J. Lerner and S. Stern (eds), Innovation Policy and the Economy, Vol.11.

they get from a new innovation may be relatively long-lived. By contrast, if innovation is relatively easy and happens often, what they get from innovating may be short-lived. Thus, we have one of those brain-bending ironies: if the prize from innovation tends to large, it will encourage more innovation and so lower the prize and reduce innovation!

Economists are familiar with these potentially circular arguments. We get the same when it comes to normal markets: suppose prices are high, then firms will want to supply a lot more which will push prices down making them want to supply less! That conundrum is resolved by separating out supply and demand and realizing that there is a point where all of these things balance themselves out. We can then think just about what happens to demand and supply to predict what happens to prices and quantities.

The same is true for innovation. There is a point where the prize (based on a rate of innovation) and the rate of innovation (based on a prize) are the same thing: they are in balance.[3] And what is great about that is that we only have to think about what impacts the prize (taking as given the rate of innovation) to work out what, say, a change in merger policy might do to innovation in a market.

Merger Policy and Innovation

When we look at mergers we tend to consider them one case at a time. However, when dynamics and innovation play a role, the case by case approach may not be appropriate. This is because the strength or tenor of the merger policy will have an impact not just on the present case at hand but also on the prospects for future mergers.

To see why this matters, suppose that in our industry two firms wish to merge. Using static analysis, we can assess the likely impact on prices and hence, consumer welfare. We can also examine whether there may be any efficiencies from the merger. But the impact on innovation is more subtle. To be sure, competitive pressure to innovate will disappear between the merging parties but may also change for others from that merger.

That, however, is not all that will happen. This is because the prospects for future mergers being permitted or not will also have changed. That will impact on their likelihood and also have an impact on what determines innovation prizes into the future.[4] The hard issue is: in what way?

As it turns out there are competing effects and no amount of introspection can resolve them. A more permissive merger policy will make mergers more likely. On the one hand, when mergers are more likely, that may reduce innovation competition and so cause innovation rates to fall. On the other hand, mergers may themselves be part of the prize – for instance; you are going to be a more attractive merger partner if you have innovated more and so you can expect to get more of the share of gains from mergers. This effect may mean that more permissive merger policy may spur innovation. Which effect dominates is hard to say.

Going to the Data

The way to resolve this is to understand whether the conditions in the industry, historically, are likely to support one effect being larger than another. These studies have only been recently conducted and one of the most important concerns the hard disk drive industry.

The hard disk drive industry has a special place for those who have studied disruptive innovation because it was the centrepiece of Clay Christensen's famous book, *The Innovator's Dilemma*.[5] In that book, Christensen showed that when big innovations come along – like step size changes in the physical size of disk drives – it is usually new entrants who bring them to market first. Now while that may look good in terms of competition, as it turned out, and this was studied by those after Christensen, incumbent firms react strongly to that new entrant by investing more themselves and also by acquiring those entrants. Consequently, the hard disk drive industry has gone through rapid consolidation and increasing concentration.

3 Segal, I. and M. Whinston (2007), "Antitrust in Innovative Industries," American Economic Review, 97 (5): pp.1703-1730.

4 Gans, Joshua S. and Lars Persson (2013), "Entrepreneurial Commercialization Choices and the Interaction between IPR and Competition Policy," Industrial and Corporate Change, Vol. 22, No. 1, 131-151.

5 Christensen, Clayton M. (1997), The Innovator's Dilemma, Harvard Business Review Press: Boston (MA).

This is well-known in antitrust circles. It is only a few years ago that the industry went from 5 to 3 players in a short period of time due to the Seagate-Samsung and Maxtor-Hitachi set of mergers. In those cases, antitrust authorities were concerned about the reduction in competition but also on a potential reduction in R&D expenditures and so placed conditions on the mergers to ensure those reductions did not take place.

But our understanding of this industry has now been aided by a 2015 study conducted by Mitsuru Igami and Kosuke Uetake.[6] They took historical data from the industry to develop a model with all of the complications I have described above to see if permitting those final two mergers was a good idea or not. On the static side, what they found is that compared to mergers in the past, these mergers had relatively large effects. In particular, they likely led to a large reduction in consumer welfare while at the same time also generating substantial realized efficiencies. In the past, both of these effects had been dampened by smaller scale. Nonetheless, even though the effects became large, they balanced each other out.

What was more interesting was what the likely impact of a long-term merger policy would have been on the industry. For instance, suppose that antitrust authorities blocked mergers that reduced the number of competitors below 5. If this had been the policy 15 years ago, it would have reduced the rate of R&D because it would actually encourage some firms to exit the industry. Specifically, firms that might otherwise have stayed in longer to find a merger partner, leave and with them goes any innovations they may have produced. The end result of this is that while the R&D rate did not vary much when the industry moved from 5 to 3, had a 5 threshold been the policy, it would have slowed R&D earlier in the industry lifecycle.

Conclusion

All this serves to reinforce the importance of examining dynamic implications of merger policy while, at the same time, reducing our need to guess too strongly about dynamic implications for any particular merger case. For the recent hard disk drive mergers, it appears that the mergers would not, on net, have impacted much on R&D rates. However, the industry as a whole would have benefited, during its period of low concentration, with a clearer merger policy about what would happen in the 'end game' when the industry evolved to higher concentration levels. Thus, the value of certainty in policy-making is not so much for when the industry is concentrated but for industries that are competitive right at the moment.

Joshua Gans is a Professor of Strategic Management and the Jeffrey S. Skoll Chair of Technical Innovation and Entrepreneurship at the Rotman School of Management at the University of Toronto. He has been involved in antitrust regulatory and intellectual property consulting for twenty years.

Dr. Gans has submitted expert testimony in the United States, Australia, and New Zealand in a variety of matters ranging from antitrust harm to copyright negotiations to damages calculations. Recently, he was the chief economic expert witness to the Federal Trade Commission in its antitrust claim of exclusionary conduct and abuse of market power against Intel. He has also advised Microsoft on antitrust and patent royalty matters. His industry experience includes computing technology, electricity, gas, rail, and telecommunications.

Joshua Gans
Professor of Strategic Management and holder of the Jeffrey S. Skoll Chair of Technical Innovation and Entrepreneurship at the Rotman School of Management, University of Toronto
T +1-647-273-3202
joshua.gans@gmail.com

6 Igami, Mitsuru and Uetake Kosuke (2015), "Mergers, Innovation and Entry-Exit Dynamics: The Consolidation of the Hard Disk Drive Industry," paper presented at the NBER Summer Institute, Cambridge MA.

TMT deal trends in Mexico

As in the U.S. and other European countries, the Mexican telecommunications and broadcasting market has been very active in M&A deals. Just over two years ago, a major constitutional reform in telecommunications entered into force and the new law is reaching its first anniversary. This new regulatory framework has lifted many entry barriers and granted more certainty to large and small local and international companies to invest in Mexico.

Eutelsat announced the acquisition of 100% of Satélites Mexicanos (Satmex) in the amount of U.S.$831m dollars a few days after the publication of the constitutional reform (which removed the restriction of 49% of foreign investment in all telecommunications services, including satellite). Satmex operated three Mexican satellites covering 90% of the population of the Americas and in March this year launched a new satellite for the region.

So far, AT&T is the largest new player entering Mexico. AT&T sold its 8.3% shareholding in América Móvil (which owns Telcel and Telmex) for U.S.$5.5bn dollars to help finance its expansion. First, through the acquisition of DirecTV (U.S.$48.5bn dollars), AT&T indirectly acquired 41% of Sky Mexico, which is controlled by Grupo Televisa and has a market share in pay TV of around 36%. In November 2014, the transaction was approved by the new Federal Institute of Telecommunications (IFETEL), which holds all powers regarding antitrust matters in the sector.

That same month, AT&T notified the acquisition of the third mobile operator in Mexico, Iusacell, who was in the process of terminating a brief 50/50 joint venture with Grupo Televisa. In less than 6 weeks, IFETEL approved the termination of the joint venture between Iusacell and Grupo Televisa, and the purchase by AT&T of 100% of the share capital of Iusacell for U.S.$2.5bn dollars.

In January 2015, AT&T announced it was buying another Mexican mobile operator, Nextel Mexico, for U.S.$1.875bn dollars from NII Holdings, which filed for U.S. Chapter 11 bankruptcy in the third quarter of 2014. IFETEL approved the acquisition at the end of April, imposing on AT&T certain conditions to avoid coordination between competitors. The remedies are not public due to confidentiality reasons.

Now, AT&T is: (i) the third largest mobile operator in terms of users with 11.4 million (Iusacell and Nextel Mexico), whereas Telcel and Telefonica have 70.4 and 20.5 million users, respectively; (ii) the second largest in terms of income, and (iii) the largest in terms of spectrum with 42% of the spectrum allocated for mobile services. AT&T also holds a minority interest in Sky Mexico. AT&T intends to grow its mobile market share over the next five years and therefore has already announced heavy investments. Also, AT&T must compete with Telcel, whose market share in the whole telecommunications sector continues at similar levels to those that existed when it was declared a preponderant agent in March 2014 (around 61%). In its capacity as preponderant agent, Telcel remains subject to specific obligations, including the obligation to share its passive infrastructure, such as its tower sites, with its competitors.

Additionally, the Mexican mobile market has attracted the interest of local and international MVNO's; Virgin Mobile being the most relevant example, who initiated operations in June 2014. Virgin Mobile is using Telefonica's network under a commercial arrangement. Unlike Telcel, Telefonica does not have a regulatory obligation to share infrastructure.

Not only international investors have been increasing operations in Mexico. Grupo Televisa, the preponderant agent in the broadcasting sector, has taken advantage of a criticized transitory article of the new law that permits the acquisition of telecommunications and broadcasting concessionaires without being subject to the antitrust concentration procedure as long as there continues the existence of preponderant agents. In the past few months, Grupo Televisa has acquired two major cable companies with presence in four out of the five most important regions in the country, and these acquisitions have not undergone antitrust scrutiny.

However, Grupo Televisa is currently under investigation and has been determined on a preliminary basis to hold substantial market power in pay TV services (cable and satellite) with a market share of more than 60%. The finding of substantial market power in the pay TV market would lead to additional obligations being placed on Grupo Televisa. IFETEL is also evaluating Grupo Televisa's market power in the market for triple play services. If IFETEL finds substantial market power on that market, Grupo Televisa could be subject to additional regulatory obligations.

América Móvil and its subsidiary Telcel continue to be banned under Telmex's license from providing pay TV and broadcasting services in Mexico. IFETEL recently finalized an auction of spectrum for two national TV channels, and only one Mexican group was awarded the concession. There was no real interest from international companies probably in part due to the 49% restriction in foreign investment. Moreover, América Movil could not participate in the auction due to its license prohibition of entering the broadcasting market.

We envisage additional consolidation mainly towards increasing market participation of smaller players and the possibility of providing triple and quadruple play services, including the participation of fixed operators. In addition, the development of the 700 MHz wholesale network, the extension of the Federal Electricity Commission's telecommunications network, the implementation of the energy reform and other infrastructure projects may stimulate the market. Other international technology and media transactions could also impact Mexico.

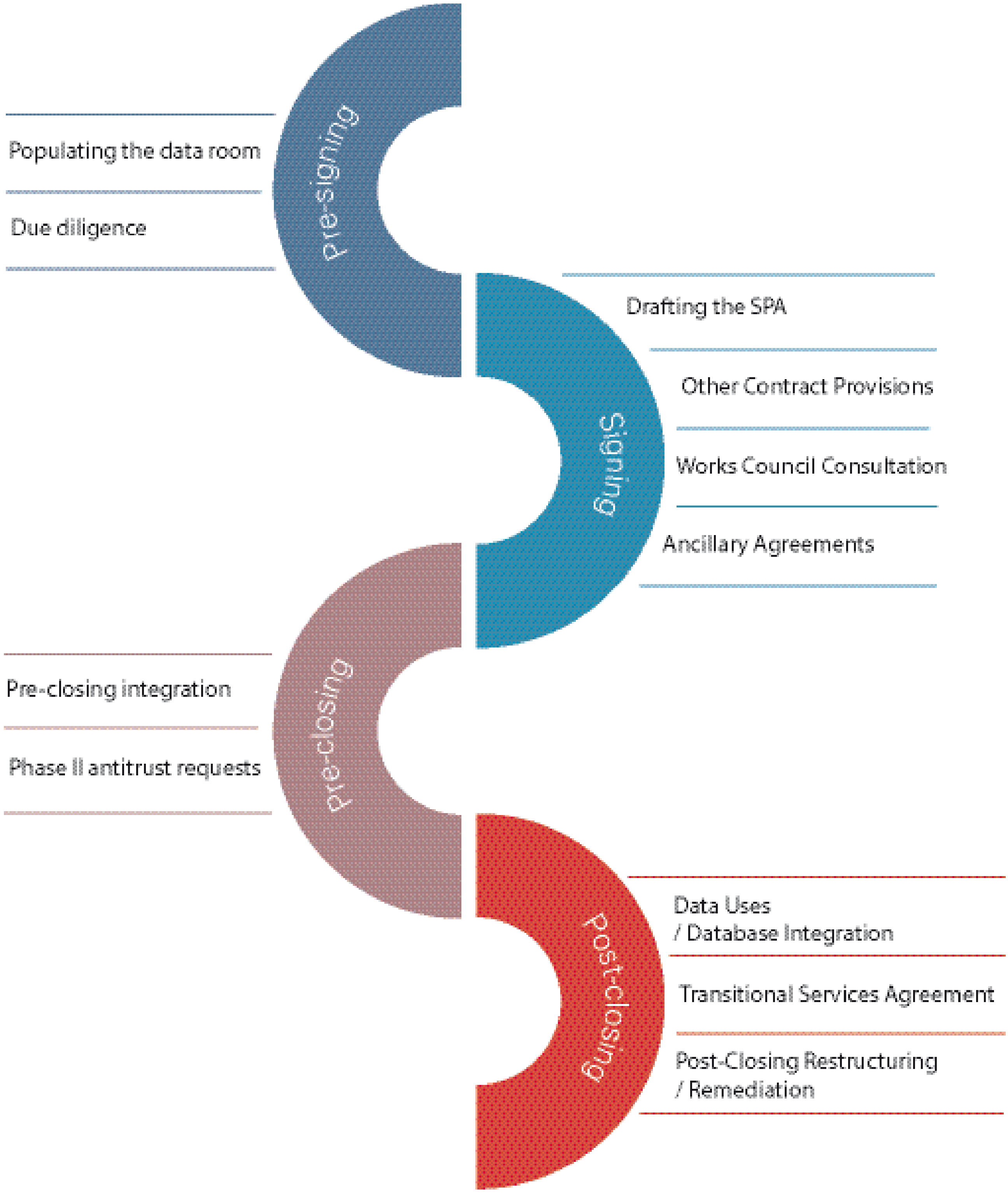
There is no doubt that the reform in the sector has improved the environment and has fostered the convergence of businesses. The mobile market has been particularly dynamic since we moved from four to three operators, one of them being a new player (AT&T) with resources, including ample spectrum, to compete in a highly concentrated market. IFETEL did not consider that such consolidation would affect competition, but authorities in other countries are currently facing that debate. However, pay TV and triple play markets are under scrutiny and should be carefully reviewed by the Mexican authority.

As IFETEL implements the new regulatory framework, the conditions for entry into the market will become clearer, which could foster market entry and bring more competition for the benefit of final users.

Federico Hernandez Arroyo
Partner, Mexico City
T +52 55 5091 0164
federico.hernandez@hoganlovells.com

Data protection in M&A transactions: A how-to guide

The timeline for M&A transactions:



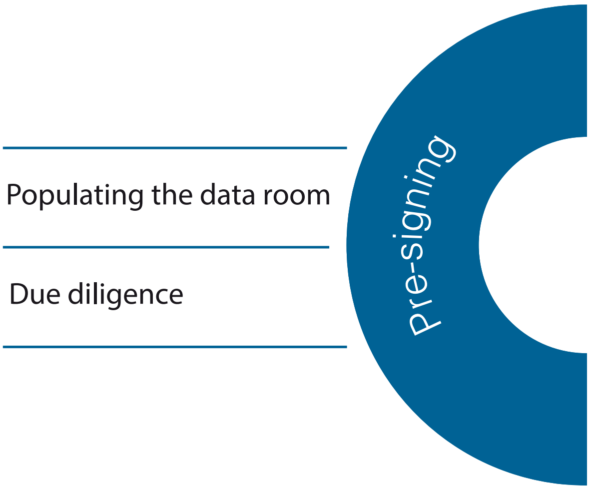
Data protection during pre-signing phase

Personal data is an important aspect of most M&A transactions as almost every company stores information about its employees and customers. For some deals, data is critical.

This how-to guide takes you through the steps of a typical M&A transaction, highlighting how personal data issues can affect deal processes, and how those issues are typically dealt with.

We have structured the guide in the form of a timeline, analyzing each stage of the transaction: pre-signing, signing, signing to closing, and post-closing.

Stage I – Pre-Signing



Populating the data room
Putting employee or customer data in the data room creates a number of privacy and data protection issues outside the United States, especially in the EU, Asia and other jurisdictions with comprehensive data protection regimes.

In the EU, wherever possible, the information disclosed in the data room should not identify individual employees, but instead be replaced with de-identified, pseudonymized or aggregated information. If this is not possible, the seller may consider reducing the amount of information shared to that which is strictly necessary, but in that case the individuals concerned must be informed of the processing and the purposes of such processing, which may not be possible due to deal confidentiality. Some EU member states are more restrictive regarding the provision of employee data in a data room. In Germany for example, only information about key employees which are critical to the transaction may be provided in the data room.

In addition, "sensitive information" – e.g., information which reveals an employee's racial or ethnic origin, political opinions, religious or philosophical beliefs, trade-union membership, and the processing of data concerning health or sex life – should be avoided altogether.

In Switzerland and Austria, not only data relating to individuals but also data relating to companies may also be covered by data protection laws.

Other jurisdictions impose stricter requirements. For example, in some circumstances, transferring personal information outside of Russia or China requires prior consent from the individual to whom that data relates.

A data processing agreement must be entered into with the entity hosting the data room. The data processing agreement must include provisions on data security.

Customer data may also include personal information. If so, personal data should be minimized, or – subject to the national privacy laws – even be redacted.

Best practices

- Redact/limit personal information (e.g. names and addresses) in the documents available in the data room.
- Provide model employment contracts rather than all contracts.
- Do not disclose sensitive personal information.
- Analytics tables without names could also be provided, such as table with the average presence in the company and average salary per function.
- Choose a secure data room provider complying with data protection laws.
- Ensure that all persons accessing personal data available in the data room are bound by confidentiality.

Due diligence
Data can be central to the valuation of the target. Due diligence can also reveal potential liabilities for data protection violations.

Identifying material liabilities
Countries throughout the world have enacted privacy and data protection laws, and new laws are being passed each year. Compliance with those obligations is increasingly

Data protection during pre-signing phase

complex and regulators are increasing civil penalties and, in some cases, making non-compliance criminal. In the United States, for example, recent amendments to the Health Insurance Portability and Accountability Act (HIPAA) allow HHS to impose penalties of up to $1.5m annually per type of violation. The Federal Trade Commission in the United States is entering into an increasing number of consent decrees with companies and imposing record fines for non-compliance. The White House and U.S. Congress will continue to push the private sector to greater action – and other governments, such as those in the EU member states, are not far behind. The proposed European General Data Protection Regulation intends to impose sanctions of up to 5% of a group turnover.

Any potential compliance liabilities can be identified through appropriate due diligence and a buyer can be advised on how to modify the seller's practices, operations or business post-closing to comply with applicable privacy laws.

The Asia-Pacific region has seen an explosion of new data protection regulation in recent years, with comprehensive "European-style" laws now in force in Australia, Hong Kong, India, Japan, Malaysia, New Zealand, the Philippines, Singapore, South Korea and Taiwan (and on a sector-by-sector basis in China). The compliance challenge in the region is one that has historically often been overlooked. As a consequence of an increasing frequency of high profile cases of unauthorized use of personal data, regulators are becoming increasingly aggressive in a number of jurisdictions. Fines of up to the equivalent of US$1m are now possible in some jurisdictions and some jurisdictions, such as South Korea, have introduced revenue-based fines.

Best practices

- Create a data protection "heat map" to identify areas of highest compliance risk for the target.
- When evaluating potential liabilities linked to data privacy compliance, keep in mind that there is a global trend to increase sanctions worldwide.

Cyber Security

As of January 1, 2015, 84 percent of the total value of Fortune 500 companies consisted of intangible assets[1]. Corporate risk has correspondingly shifted to the virtual world. The threats are complex, varied, and rapidly evolving: cyberattacks can compromise sensitive and confidential data such as personal information, corporate secrets, intellectual property, and credit information. Smaller organizations – which have fewer security resources than their larger counterparts – are frequent targets[2]. The costs can be staggering[3]. In addition to financial costs, organizations may suffer damage to their reputation, loss of clients, and even disruptions in their business operations.

Operating under the time pressures of a deal, buyers often overlook cybersecurity risks. This mistake can be costly, as a Seller's cybersecurity capabilities can affect the value of the target or even the viability of a transaction itself. Moreover, acquired companies are often targeted as attack pathways to corporate parents, meaning that cybersecurity vulnerabilities within an acquired company may threaten the assets of the corporate parent after acquisition.

1 Ocean Tomo, "Intangible Asset Market Value," March 2015, http://www.oceantomo.com/2015/03/04/2015-intangible-asset-market-value-study/.

2 Verizon, "2015 Data Breach Investigations Report,"

3 PwC estimated the average cost per data breach to large organizations at $4.8 million in 2014.

Data protection during pre-signing phase

Best practices

- Consider a separate cyber security audit as part of due diligence.

Valuation

Possession of data does not always create the right to use data. Laws and data providers commonly impose restrictions on recipients' data use. A German data protection authority has recently stated in relation to an asset deal that email addresses and telephone numbers of the seller's customers may not be used by the buyer for marketing purposes, unless the customers have declared their consent to receive marketing emails or call from the buyer.[4] After contracts terminate, recipients are typically obligated to return or destroy the data they have received. The restrictions on the use of the data may significantly undercut the value of the target's data and/or impede a buyer's intended use of the data after closing. A deal value may thus be affected by such restrictions.

Best practices

- If the target's value is linked to the personal data it holds, stop and think whether the data really can be used for new purposes.

IT Expenses

The pace, scope, and sophistication of data breaches and cyberattacks continues to increase[5], placing businesses' data security practices under heightened scrutiny from consumers, private litigants, and regulators. Such breaches can expose the data of millions of individual consumers, resulting in potentially massive liability. Such breaches trigger both direct (financial) and indirect (brand reputation, diminished customer loyalty) costs.

Companies must allocate substantial resources to guard against potential liabilities incurred from security incidents involving the improper use or disclosure of data.

If the seller did not allocate sufficient resources for the protection of its data, the buyer may be left with the bill. Buyers often are surprised to learn that significant additional IT spend is necessary post-closing and wish to understand those commitments pre-closing.

Best practices

- Check capex forecasts to make sure adequate IT investments are budgeted for cyber security.

Data Integration

As data becomes an increasingly valuable and strategic corporate asset, businesses look to combine customer databases to maximize transaction value. Integrating databases can raise privacy and data protection compliance issues. The target's existing data subject consents and other compliance measures may not address the scope of a combined business or align with its legal structure. The operating efficiencies envisaged for an integrated business may be challenged by cross-border data transfer controls that prevent or restrict consolidation of data center and other operations.

Apart from the regulatory compliance issues, the costs of integrating databases may be substantial and create transaction risk.

Best practices

- Create simulations on how the data systems of the buyer will be integrated into the group.
- Check these simulations with data privacy counsel to make sure they are realistic.

Choosing deal structure

Asset purchases involve the sale of specific assets, and some of those assets may consist of data. The purchase and sale of data, however, raises a number of legal issues that require attention. For example, in the United States, the sale of data outside of the transfer of an operating business implicates a number of U.S. laws, including laws applicable to health data and financial data, and the seller's specific privacy policy representations, the breach of which may be deemed deceptive under section 5 of the Federal Trade Commission Act. Similar restrictions exist in the EU. In Germany, the transfer of personal data to the buyer by way of an asset deal at least requires providing the customers with the opportunity to opt-out before the

4 Bavarian State Office for Data Protection Supervision, press release dated July, 30th 2015, https://www.lda.bayern.de/lda/datenschutzaufsicht/lda_daten/150730%20-%20PM%20Unternehmenskauf.pdf

5 By some estimates the average total cost of a data breach was $3.5 million in 2014, a 15% increase over the cost of breaches in 2013.

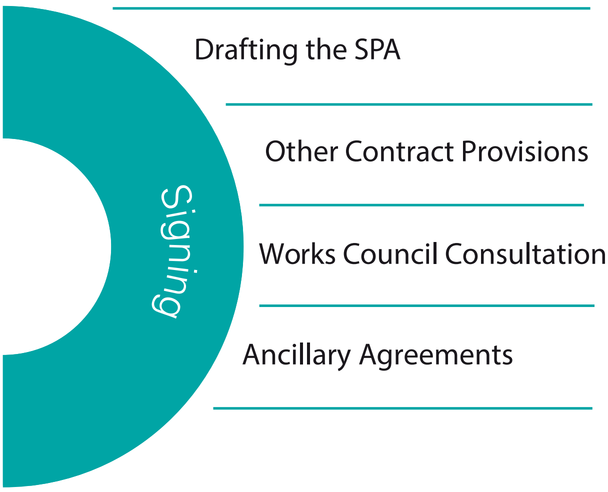
Data protection at signing

transfer.[6] The sale of a database can in some cases be considered null and void if the database does not comply with applicable legislation.

Best practices

- Like contracts, personal data cannot always be assigned in a transaction. This may affect how the deal is structured.
- Where the deal is structured as an asset deal, beware of potential arguments that the sale is null and void, due to data protection violations.

Stage II – Signing



Drafting the SPA: Reps and Warranties
The value of and risks relating to data should be confirmed through the negotiation of appropriate representations and warranties in the transaction documents. Those representations vary by industry and risk levels but often include representations regarding:

- compliance with privacy and data security laws and contractual requirements;
- security of information technology assets;
- detection of network vulnerabilities and data breaches;
- disclosure of data related claims and compliance investigations;
- disclosure of arrangements under which data is shared with or by third parties; and

6 Bavarian State Office for Data Protection Supervision, press release dated July, 30th 2015, https://www.lda.bayern.de/lda/datenschutzaufsicht/lda_daten/150730%20-%20PM%20Unternehmenskauf.pdf

Data protection at signing

- security assessments and remediation of any gaps.

These representations should also address any significant due diligence findings and assumptions, and be backed by indemnification.

Other Contract Provisions
Depending on the results of the due diligence, a number of other provisions may be considered. These include:

- special indemnities for data-related liabilities;
- closing conditions to address implementation of missing IT safeguards or compliance gaps;
- covenants to address ongoing safeguards of sensitive information.

Best practices

- Consider treating data protection similarly to environmental risks in the SPA, including a potential audit to establish a baseline and remediation steps.
- Data protection may affect SPA reps and warranties on employment (including works council consultation), conditions precedent, and covenants between signing and closing.

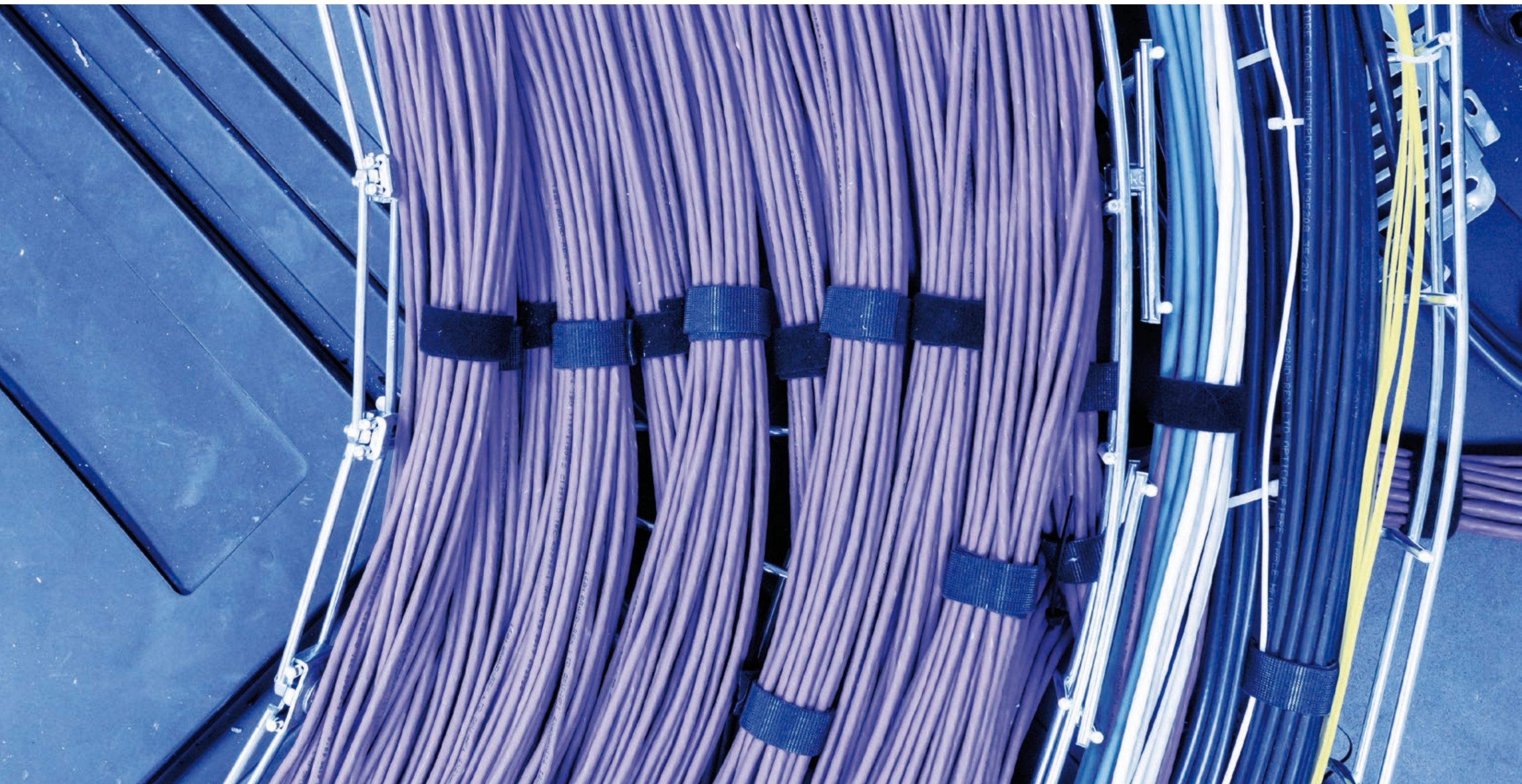
Works council consultation
In some countries, works council consultation is required before the SPA is signed. Works councils are increasingly sophisticated on data protection issues. Works council consultation may therefore need to include a data protection aspect if the transaction will affect how employee personal data is handled. The works council may also act as watch dogs to ensure that the buyer and seller comply with personal data rules.

Best practices

- Assume that the works councils will be vigilant on data protection compliance in connection with the deal.

Ancillary agreements
The transaction may require various ancillary agreements dealing with personal data, including:

- A transitional services agreement dealing with post-closing data integration and services;
- A data sharing agreement to govern data transfers pre-closing;



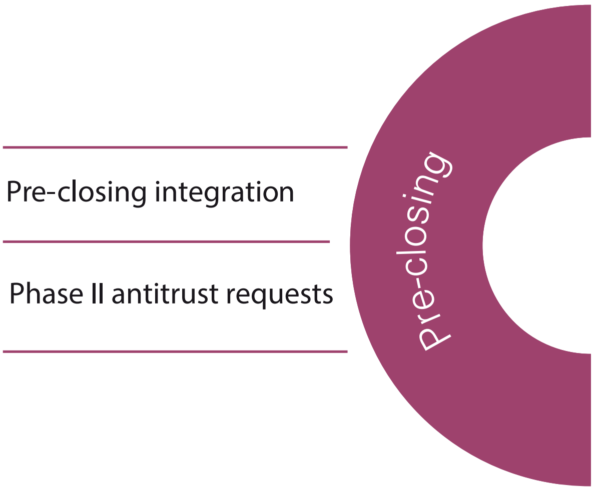
Data protection between signing and closing

- Where appropriate, other licensing and data processing agreements for operation of the business post-closing.

Best practices

- Drafters of the SPA should think through data transfers, sharing and use, to ensure that they are covered by appropriate ancillary agreements.

Stage III – Between Signing and Closing



Pre-Closing Integration
Between signing and closing, the buyer's integration team will be developing plans on how to integrate the employees and information systems of the acquired businesses into buyer's own organization. Integration planning may require the transfer of significant personal data between seller and buyer prior to the closing. The scope of information that may be transferred prior to closing is strictly limited by antitrust rules. Sharing any information that may affect the competitive behavior of the two entities prior to closing can be heavily sanctioned under "gun jumping" rules. However, subject to those antitrust rules, it is possible to organize the exchange of some information with the integration teams of the buyer in order to help the buyer prepare for the day when it will operate the businesses.

Transferring employee data to the buyer prior to closing raises particular data protection issues:

Before closing, the buyer's group is a third party vis-à-vis the seller. Therefore:

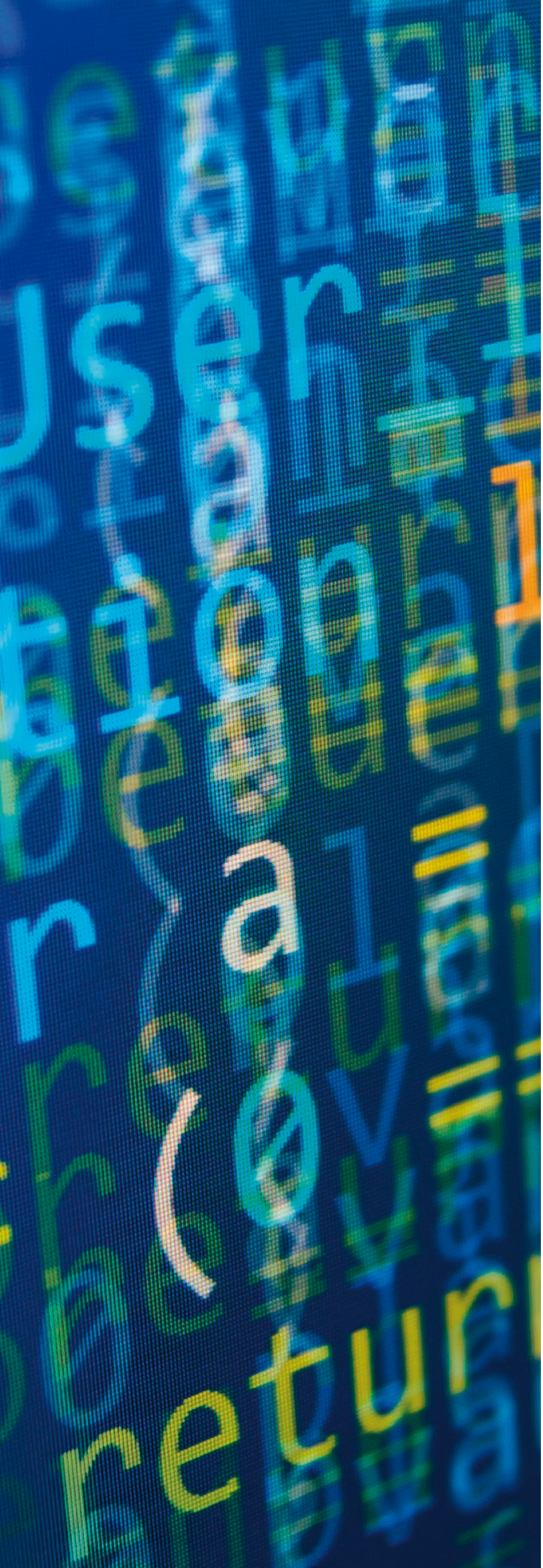
- The seller will generally have to consult the relevant works councils of the transferred entities before transferring any employee data.
- The seller may have to make filings with relevant data protection authorities in connection with the transfer.
- The seller must be able to justify that the transfer only involves data that is absolutely necessary for the integration task, and that the recipients of the data are limited to the integration teams within the buyer's organization.
- The buyer should agree to return or destroy the data in the event the closing does not occur for any reason, and should naturally be bound by a confidentiality obligation and an obligation not to use the data for any purpose other than for integration planning.

For complex integration projects involving large amounts of data, buyer and seller may consider creating a governance framework to ensure that data protection concerns are reflected during each stage of the process. Under the principle of accountability, seller must be able to document that data protection principles were conscientiously applied throughout the process, and that safeguards have been implemented to ensure that the whole process is reversible if the closing does not occur.

Phase II antitrust requests
During the period between signing and closing, antitrust authorities may request additional information.

If the parties' businesses involve the collection and aggregation of significant amounts of customer data (e.g., user data from the parties' online properties), a Phase II investigation may include an analysis of whether the combination of those data sets creates a competitively significant barrier to entry that could harm competition. Parties to transactions involving combination of large sets of user data should be prepared to address potential arguments that the deal will foreclose or undermine smaller competitors.

Responding to Phase II requests may require the analysis of employee e-mails, which requires appropriate data protection safeguards.

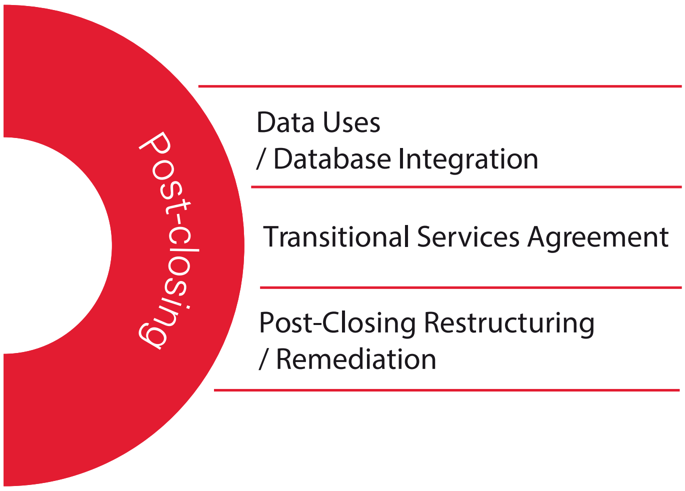


Data protection post-closing

Best practices

- Put in place a data protection framework agreement between the buyer and the seller to govern and secure the transfers of data pre-closing;
- Limit disclosure of data to integration teams;
- If Phase II antitrust requests require analysis of employee e-mails, make sure employees are informed and other data protection safeguards are implemented.

Stage IV – Post-Closing



Data Uses and Database Integration
Acquiring data assets through an acquisition does not automatically give a buyer rights to use the data post-closing. For example, in the United States, regulators have made clear that buyers must continue to honor the privacy promises made by the seller prior to closing. As a result, a buyer is responsible for honoring any public privacy policies of the seller and the buyer cannot make more expanded use of the information under the buyer's privacy policy without first obtaining opt in consent from each individual who had provided the data.

Transitional Services Agreement
After closing, the parties to the transaction will generally have to continue migration and integration efforts, a process that can last up to two years. During this period, the seller may continue to conduct a number of data processing operations on behalf of the buyer.

Data protection post-closing

These post-closing data processing operations are generally part of a broader set of technical and operational services covered by a "transitional services agreement" (TSA). From a data protection standpoint, the TSA will be considered a processing agreement between the buyer, as data controller, and the seller, as data processor.

As with any data processing agreement, cross-border data transfers, particularly in the context of EU business processing data outside the EU, but now also in the case of many Asia-Pacific jurisdictions processing data cross-border, will have to be analyzed and surrounded by safeguards. In some cases, the transitional services may involve processing of personal data by the buyer as data processor on behalf of the seller. This might be the case, for example, if the buyer must handle consumer complaints relating to product sales that remain the responsibility of the seller. In that case, the respective roles of data controller and data processor are reversed, and the TSA must reflect this by putting appropriate obligations on each party. In either case, the TSA will need to describe what happens to the personal data once the TSA comes to an end. In theory, the data processor is supposed to destroy the data or return the data to the data controller.

Post-Closing Restructuring and Remediation

One of the most challenging post-closing tasks will be to integrate the acquired businesses into the buyer's data protection governance arrangements. The process will be similar to rolling-out the buyer's global compliance program into the new acquired businesses.

Best practices

- Specific training measures would have to be introduced into the new businesses, data protection officers will have to be named, and compliance gaps identified and corrected.

Conclusion

For almost any deal, Buyer's deal team should ask the following questions:

- Will other parts of our business be able to use the target's data after closing?
- Can we centralize all the target's data at our existing data centers?
- Have we given instructions not to upload personal employee data to the data room?
- Should we conduct a data protection and/or cyber security audit to create a baseline of potential risks and estimate remediation costs?
- Are we taking data protection into account in our works council consultations?
- What data-specific ancillary agreements will we need?

Winston Maxwell
Partner, Paris
T +33 1 5367 4847
winston.maxwell@hoganlovells.com

Mark Parsons
Partner, Hong Kong
T +852 2840 5033
mark.parsons@hoganlovells.com

Scott T. Loughlin
Partner, Washington
T +1 202 637 5565
scott.loughlin@hoganlovells.com

Marcus Schreibauer
Partner, Duesseldorf
T +49 (211) 1368 375
marcus.schreibauer@hoganlovells.com

Sarah Taieb
Senior Associate, Paris
T +33 1 5367 3860
sarah.taieb@hoganlovells.com

Former Obama advisor shares insights on drone transactions

Lisa Ellman, Partner in our Washington, D.C. office and head of the firm's Unmanned Aircraft System (UAS) Group, speaks about drone deals, valuation and regulatory trends.

What's your vision of transactional trends?
The UAS industry is in its very early stages, and transactional trends reflect this. Big players like Google, Amazon and Facebook are getting into this market, but also a lot of smaller players and start-ups, not only on the hardware side but on the software and application side. I see a lot of growth coming from the software and application side. Venture capitalists are trying to figure out where the industry and regulation are going. Right now commercial use of UAS in the United States is unauthorized without special permission from the FAA. There's a proposed rule which is going to become final in the next year, which will provide a baseline authorization to fly UAS, but it is not going to allow for beyond line of sight flight, or flights in cities. This will greatly impact a lot of the potential applications we see, as every industry is looking to use UAS to further its own interests, and many want to fly long distances or over people. Investors are holding back slightly to see what develops over the next few years but I anticipate a huge flood of transactional activity as soon as that rule becomes final and provides regulatory certainty.

With so much uncertainty how are investors setting valuations?
Valuation has been one of the challenges because there is so much regulatory uncertainty and lack of data in this space. The UAS industry is essentially a collection of very different businesses. You have the consumer toy industry, aviation, emerging technologies, technology generally, and defence, and all of those entities are in the same new UAS world, with different levels of sophistication and different valuation metrics applicable to their industry. I have met with various investors and venture capitalists who are really excited about this industry but are waiting to see what happens about beyond line of sight flight, incorporation of collision avoidance technology, and safety rules for flights over people. Depending on how regulation develops, the types of industrial applications will vary enormously. That's part of the service we provide to clients in this space: we help think through policy issues and how regulatory decisions may affect business models and valuation.

I'd also add another dynamic we are seeing here – with so many new players, everyone is vying to come out on top as the leader for their particular niche, and they're all trying to invent "the" platform that will be the industry lead and that will set the standard others look to adopt. Investors are trying to guess who will be that next "top" leader that should be invested in. So everyone is looking, listening and comparing notes to see where the "smart money" is investing.

Does the firm generally advise potential investors, or are we on the target side, or both?
Both. We frequently advise investors, but we also have several start up clients. We also advise bigger companies trying to figure out how UAS fits into their broader strategy. As I mentioned earlier, a new fast-growing segment is the software side: development of technology that can help us fly more safely or alleviate some of our safety, security and privacy concerns with the widespread use of UAS. These technological remedies will have an impact on the kind of regulations that emerge.

We have also seen a number of service-based companies, such as companies that want to become the "Uber" for drones – "rent a drone" companies, for example.

The United States government, through the NTIA, has begun a multi-stakeholder process in order to develop self-regulatory privacy and transparency solutions for UAS. What is your view of the process?
I was on the team that wrote the presidential memorandum that created the multi-stakeholder process. It is always a challenge to bring together public, private, civil society organizations, and academics, in one room and develop a consensus. The NTIA process is intended to result in voluntary best practices for privacy, transparency and accountability related to the commercial use of UAS. One of the challenges of policy making in the UAS arena is that there is not a lot of data: we don't have reliable safety or privacy data because commercial UAS operations don't yet exist in the U.S. That said, we have heard a lot from the American public, especially on privacy. UAS are just a platform for a camera.

However, perhaps due to their unique mobility, the American people perceive UAS very differently from other forms of cameras. Researchers at University of Oklahoma surveyed people about their reactions to traffic monitoring by UAS-mounted cameras versus ground-mounted cameras, where the camera on each platform would capture the same information and the same data, People were less concerned about the ground-mounted camera and more concerned about the UAS-mounted camera, even though the camera was capturing the same amount of information! The privacy approach to UAS will have to take this different perception into account. One of the objectives of the NTIA multi-stakeholder process will be to ask what privacy concerns are unique to UAS, and which privacy concerns are not unique. For those that are not unique maybe we need to update our privacy laws on the books generally. For the ones that are unique, maybe we need to consider UAS-specific rules.

You mentioned public perception in the U.S. being particularly sensitive to UAS. How do people outside the U.S. perceive these policy issues?
Many other countries are ahead of us. For example, in Japan, 85% of crop dusting is done with drones and it has been that way for many years. In Canada, there are already regulations in place permitting commercial UAS use. Amazon has tested its UAS in Canada, while Google has tested its UAS in Australia. Australia and New Zealand have allowed commercial drone use for many years. The U.S. has the most complex airspace system which is why it has taken so long for us to get rules on the books, but critics would say that policy making in the U.S. is bureaucratic, reactive and we are falling behind the rest of the world. Some countries are worried about privacy issues, some less so. From what I've seen, privacy issues in Canada are not a large part of public debate. Here in the United States, there has been a lot of debate over surveillance generally.

One of the things the commercial industry has suffered from is the fact that the term "drone" refers to both a toy drone and to Predator or a Reaper drone flying overseas to gather intelligence or kill people. They are entirely different things, but unfortunately they have the same name, which creates confusion for the American public.

The U.S. has in some respects looked to other countries for guidance. For example, when the FAA released its proposed rule in February it asked for public comment on whether microdrones should be regulated differently, meaning drones weighing two kilograms or less. Canada has adopted this sort of tiered approach to regulation. Drones that are two kilos or less are regulated differently from heavier drones in Canada. At a policy level, this makes sense. The question is whether a two kilo drone is less risky than a 20 kilo drone, including when it gets caught in a jet engine – is it just a question of weight, or also materials? The materials the drone is made of may be just as important as the weight. Here in the U.S., policymakers are looking at frangibility as a safety factor. If a microdrone presents the same risk to a jet engine as a bird, perhaps that's a risk that the American public would be willing to take.

Are there regions in the world that are leaders in drone technology?

The biggest manufacturer of drones right now is a Chinese company called DJI. They have a large market share. Of the 333 exemptions that have been issued, I believe that DJI accounts for maybe 70% of the vehicles that have so far been approved by the FAA. Japan has been a leader in using drones for agriculture.

What was it like working on these issues in the Obama administration?

In 2012 I was working at the White House focusing on making our government more innovative, bringing innovation and emerging technology to the federal government. I was running our open government initiative. This included opening up data from the federal agencies and making it available to the public. In 2012 Congress passed the FAA Reauthorization Act which mandated that the federal government integrate drones into our national airspace by 2015. So around that time I was asked to run drone policy at the Department of Justice. It was a fascinating time to be on the ground floor of this new emerging technology. There were no rules in place. We had to ask some basic questions: what are we trying to do? What does an integrated national airspace system actually look like? What does it mean to have drones fly alongside helicopters? Next to buildings? Over cities? How can we get there in a way that is safe, secure and respectful of people's privacy? It was fascinating to be at the front end of all of these conversations and being able to craft some rules to get the process started and I really liked it.

At some point I realized I could make a big impact from the private sector. I like to say now with the Hogan Lovells' UAS practice we are really helping the industry along, one client at a time. We are helping start-ups, big technology companies, drone manufacturers, software developers, users and operators and various industries who can take advantage of all the benefits of drones. I wanted to come to Hogan Lovells in particular because of the firm's strengths in both aviation and emerging technology. A lot of law firms are strong in aviation but don't have an emerging technology practice or they are strong in technology but don't have the aviation practice. Hogan Lovells has the full picture which was really enticing to me. There are also lots of synergies with our leading satellite practice. We like to say we support everything that flies.

Lisa Ellman
Partner, Washington
T +1 202 637 6934
lisa.ellman@hoganlovells.com

E-commerce liberalization in China opens opportunity for investment

China's regulatory framework for foreign investment in the e-commerce industry has undergone significant liberalization. Previous pilot programs on a local level have been extended nationwide, with directives from the highest political level to remove restrictions.

On 19 June 2015, the Ministry of Industry and Information Technology ("**MIIT**") issued a notice to lift foreign ownership restrictions in the e-commerce sector, subject to certain existing rules. A day later, the State Council issued guidance to encourage the development of cross-border e-commerce flows, a wider initiative to push China's e-commerce champions to expand overseas.

State Council orders liberalization steps

A few weeks before the recent developments on 19 and 20 June, the State Council actually laid out a general policy framework, allowing individual ministries and government agencies such as MIIT to formulate implementing rules for e-commerce liberalization.

On 4 May 2015, the State Council published a new policy document, the Opinions on Vigorous Development of E-Commerce to Accelerate the Cultivation of a New Driving Force in the Economy ("**Opinions**"), mandating government departments to develop policies to achieve a liberalized e-commerce market in China by the year 2020. The Opinions do not only address e-commerce operations, but also cover many aspects of the whole e-commerce business chain, from financial services to logistics, etc. As a broad high-level government policy statement, the Opinions signal the government's intention to promote e-commerce in order to reactivate a slowing economy.

The Opinions set forth a large number of directives to government agencies.

Re-ordering licensing procedures

The Opinions call on the State Administration for Industry and Commerce and the State Commission Office for Public Sector Reform to change the administrative policy of "first operational permit, then business license" to "first business license, then operational permit." The current practice to set up an e-commerce entity in China requires the applicant to first obtain an operating permit from the telecommunication authority – an internet content provider ("**ICP**") license, an online data processing and transaction processing services license, or both, depending on the local practice of the authority and the business scope of the company – as a pre-condition for obtaining a business license from the company registration authority. The Opinions now call for reform so that the business license is issued first, and then the operating permit. This change of order should in theory shorten the timeline for setting up an e-commerce company, allowing it to begin operations sooner.

Streamlining registration procedures

The Opinions call for a streamlining of registration procedures, the key ones being simplifying the capital registration process and lowering of the domicile/premises requirements for e-commerce businesses.

Access to capital/investment opportunities

The Opinions call on Chinese government agencies to streamline the approval process for the overseas listing of domestic e-commerce companies and encourage direct cross-border RMB investments in the e-commerce industry. Domestic listing of internet companies is also to be encouraged if certain conditions are fulfilled.

The highlight of the Opinions is the proposed removal of the foreign shareholding cap in e-commerce companies in China. The removal of the 50% foreign shareholding cap was first piloted in the Shanghai Free Trade Zone. The Opinions expand this liberalization nationwide, and can hopefully accelerate the implementation steps.

Preferences, incentives and venture capital funding

The Opinions stipulate that e-commerce businesses recognized as high-tech enterprises should enjoy related preferential policies. For example, qualified small and micro-businesses should enjoy preferential tax policies. According to the Opinions, the National Development and Reform Commission is in charge of guiding venture capital funding and increasing support to newly established e-commerce companies.

Expanding the use of e-commerce

The Opinions call for the introduction and/or increased use of e-commerce in various sectors including energy, railway, and public utilities; the public service sector, for example, through the development of e-commerce platforms targeting residential communities by providing daily consumables, remote payment and health care services; traditional trading and distributing enterprises, including selling of food, health food, drug, cosmetic and medical device on the internet, tourism, agriculture, and forestry, etc.

Additionally, the Opinions mention that the government is to enhance cooperation among financial institutions, telecommunications operators, bank card clearing institutions, payment institutions, and e-commerce companies in order to achieve large-scale application of mobile finance in e-commerce.

Logistics

The Opinions call for completion of the basic infrastructure of logistics, including establishment of logistics distribution terminals and warehousing facilities, which are critical to the e-commerce storage and delivery chain.

Building global brands

Another directive in the Opinions is to enhance the level of opening-up toward the international market. In particular, government agencies are requested to actively initiate multilateral and bilateral negotiations and communications on e-commerce rules. The Opinions call for promotion of e-commerce "going out" policies for China, by supporting e-commerce companies in establishing their own channels for overseas marketing and distinctive brands.

Improvement of support systems

The Opinions intend to enhance the regulators framework and standards, improve the establishment of credibility systems, strengthen technological and educational support (such as by enhancing the R&D of core technologies including cloud computing and big data), and coordinate regional e-commerce development, with each region addressing e-commerce as part of its plan for economic and social development.

Removal of foreign ownership restrictions

Following the issuance of the Opinions, on 19 June 2015, MIIT issued the Notice on Opening up the Limitation on Foreign Ownership in Online Data Processing and Transaction Processing Services (Operating E-commerce) ("Circular 196"). Circular 196 allows 100% foreign ownership in e-commerce services under the more general "online data processing and transaction processing services" category ("E-commerce Services") under the telecommunication services catalogue issued by MIIT in 2003. As mentioned above, Circular 196 removed the restriction nationwide after a pilot program launched in the Shanghai Free Trade Zone implemented in January this year.

According to Circular 196, foreign shareholding in E-commerce Services has been lifted from 50% (as part of the value-added telecommunications services ("VATS") category) to 100%. This means that foreign investors will be allowed to establish wholly foreign-

owned e-commerce entities nationwide. However, under existing rules, such entities will need to be in the form of a foreign-invested telecommunications enterprise. In addition, the major investor of the foreign-invested telecommunications enterprise is required to have sound experience in operating VATS in order to be able to establish the enterprise and obtain the VATS permit to operate E-commerce Services.

Circular 196 also requires that a foreign-invested telecommunications enterprise apply for the online data processing and transaction processing services permit ("**OTP Services Permit**" which is a type of VATS permit). The key question is if the OTP Services Permit is the only VATS permit required or if the ICP permit is still required, to provide E-commerce Services. Our inquiries with central and Shanghai MIIT officials indicate that they believe an ICP permit may still be required depending on whether the business is "for profit." In reality, different MIIT offices may make different interpretations of the term "for profit." Nonetheless, against the backdrop of e-commerce liberalization, hopefully, the ICP permit requirement would eventually be loosened or replaced for the provision of OTP Services.

Cross-border e-commerce encouraged

On 20 June 2015, the State Council issued the Opinions on Guiding Healthy and Smooth Development of Cross-border E-commerce (**"Cross-Border Guiding Opinions"**) which – when read together with the Opinions – further emphasize the push by the Chinese authorities for development in the cross-border e-commerce industry. With the Cross-Border Guiding Opinions, the State Council intends to promote the development of cross-border e-commerce by way of:

- offering positive financial support to traditional enterprises to explore the international market by using e-commerce platform
- improving the existing customs, inspection and quarantine and tax policies
- encouraging the development of cross-border e-commerce payment by domestic banks and payment institutions, and promoting RMB settlement of cross-border e-commerce activities.

Promoting the development of cross-border e-commerce acts as an important element in China's "internet plus" strategy, which is meant to upgrade China's economy and give it a more international presence. In addition, the Cross-Border Guiding Opinions show the government's interest in promoting transnational RMB settlement, which is an important step for the internationalization of the Chinese currency.

Conclusions

In 2015, we are seeing a ground-breaking policy change in the e-commerce sector in China.

Starting with the e-commerce liberalization in the Shanghai Free Trade Zone in January 2015, followed by the issuance of the amendment to the Foreign Investment Industry Guidance Catalogue in April 2015, the Chinese government has clearly signaled its willingness to open up the e-commerce sector to foreign investment.

The latest set of policies and rules issued in May and June 2015 bode well for further development of the e-commerce sector in China – including foreign investment – even though the end result will depend on whether the various government departments will implement the high-level policy directions. The government departmental policies requested in the State Council's Opinions should come out by year's end, and hence more clarity will soon be forthcoming.

The recent liberalization of foreign investment in China's e-commerce industry and drive for cross-border e-commerce development are significant initiatives for China's e-commerce industry as a whole. The Opinions and the Cross-Border Guiding Opinions show the government's desire to facilitate the "going out" of Chinese e-commerce businesses – clearly a message to China's large e-commerce players to develop overseas.

Roy Zou
Partner, Beijing
T +86 10 6582 9596
roy.zou@hoganlovells.com

Kurt Tiam
Counsel, Beijing
T +86 10 6582 9555
kurt.tiam@hoganlovells.com

China's new National Security Law creates added uncertainty for M&A transactions

On 1 July 2015, the National People's Congress passed the National Security Law ("**NSL**"). It took effect from the date of promulgation. The concept of national security under the NSL is very broad, covering matters ranging across politics, the military, the economy, finance, culture, technology, territorial sovereignty, cyber security, ideology and religion. The NSL specifically identifies high technology and cyber security as areas that implicate national security.

Not surprisingly, the NSL's broad scope of application has created a great sense of foreboding amongst the foreign business community, including technology companies concerned with the law's impact on investments and future opportunities in China.

Broad definition of national security

The NSL defines national security as "the status whereby there is a relative absence of international or domestic threats to the state's power to govern, sovereignty, unity and territorial integrity, the people's welfare, sustainable economic and social development, and other significant national interests, as well the ability to maintain security on a continuous basis."

From a business perspective, the key concern is in the reference to "economic development" as being seen as part of China's national security – i.e., in addition to the existing laws and regulations, commercial activities and investments will be considered separately in the light of the broad and amorphous perspective of national security.

Expanded national security review regime

The NSL provides that certain types of foreign investments, key technologies, network information technology products and services ("**IT Products and Services**", the term "network" may extend the application of the NSR requirement beyond IT Products and Services delivered via the internet, another example of the broad theme of the NSL), construction projects and other major activities that have national security implications will be subject to broad national security review ("**NSR**") requirements.

NSR in relation to foreign investments

Prior to the enactment of the NSL, the Chinese government imposed NSR requirements on mergers and acquisitions ("**M&A**") involving the acquisition of Chinese companies by foreign investors. Separately, earlier this year, the Chinese government issued a set of rules, which pilot run a NSR regime for foreign investments (including M&A and greenfield non-M&A establishments by foreign investors) in China's free trade zones (i.e. the Shanghai Pilot Free Trade Zone, the Guangdong Pilot Free Trade Zone, the Tianjin Pilot Free Trade Zone, the Fujian Pilot Free Trade Zone and other pilot free trade zones).

With the NSR requirement in the NSL, it is anticipated that the full-blown regime for foreign investment scrutiny applicable in the free trade zones will be rolled out nationwide, subject to more specific implementing rules to be enacted. There may be a potential overlap between the NSR requirements and the above mentioned security review processes. The lack of clarity on the processes and requirements as well as key determinants of the review process is of concern.

Further, with the broad definition of the national security concept in the NSL, the scope of industrial sectors that may be subject to NSR is likely to grow. In the past, the Ministry of Commerce – one of the main authorities responsible for implementing NSR – listed 57 industry sectors where M&A transactions by foreign investors may be subject to the NSR under the NSR Circular. With the NSL, additional sectors may be subject to NSR scrutiny given the lack of clarity and specificity in the NSL. For example, more technology products, particularly concerning network and cyber security, may potentially become subject to the NSR process.

NSR for IT Products and Services

The NSL calls for the establishment of a domestic internet and information security safeguarding mechanism. In particular, the new law requires, in very broad terms, that core network technology, critical infrastructure, information systems and data in important areas be stored and kept "safe" and "controllable." Importantly, the NSL further creates a NSR requirement for IT Products and Services, the scope and procedure of which are not defined in the NSL.

The new NSR requirement will have significant implications for providers of foreign IT Products and Services operating or selling in China, which may already, be 'feeling the heat' as a result of the draft Anti-Terrorism Law, the draft Cyber Security Law, and other recent industry-specific rules and drafts. Clearly, international suppliers of IT Products and Services are likely to face significantly higher entry barriers to the China market than their Chinese competitors. The overlapping rules will give the Chinese government authorities plenty of avenues through which they can scrutinize foreign products/services more closely and require disclosure of key know-how (e.g.,encryption technologies).

Implications for merger control review
Although the NSR and the merger control review run in parallel, the NSL may also have an impact on some complex merger control cases.

The Anti-Monopoly Law allows the Ministry of Commerce to consider in the merger control process "the impact of the concentration between business operators on the development of the national economy." Against this background, it is possible that the broad definition of national security in the NSL could further complicate the merger control review in China. For example, government departments that are more sensitized toward national security issues, such as the Ministry of National Security and the National Development and Reform Commission, may have additional incentives to get involved in the merger control process relating to specific transactions.

Conclusions
With the enactment of the NSL, foreign companies doing business in or with companies in China will need to brace themselves for further uncertainty until we have greater visibility on how the NSL will be implemented in practice. However the overall effect of this and other legislation currently going through the system is to make foreign investors increasingly nervous about the impact on their existing and future investments in China, and there is a worrying sense that China may be looking inwards rather than outwards for its future growth and prosperity.

Kurt Tiam
Counsel, Beijing
T +86 10 6582 9555
kurt.tiam@hoganlovells.com

Andy Huang
Associate, Beijing
T +86 10 6582 9533
andy.huang@hoganlovells.com

Advantages of international arbitration for technology deals

In the past decades, the technology industry has become a booming sector, several global actors having emerged in the industry, including some of the highest market capitalisations in the world. In a field in which trade secrets predominate, whose main actors have a global reach, and in which the competition for innovation is constantly gathering pace, international arbitration stands out as an appropriate mechanism for resolving disputes.

Expertise
Arbitration enables the parties to choose the arbitrators which will decide their dispute. The technology industry implies complex issues, the understanding of which requires in-depth knowledge in fields such as engineering, applied science, as well as specific governmental regulation. Therefore, actors in the field will be eager to choose arbitrators with the necessary expertise to make an informed decision.

Moreover, during the proceedings, parties will be able to rely on expert reports to ensure a neutral and professional view on the issues at hand is heard by the arbitral tribunal. Arbitral institutions, such as the International Chamber of Commerce (ICC), provide assistance in selecting experts and rules governing their intervention (these rules ensure in particular that it is neither too costly nor too extensive in time).

Confidentiality
The technology industry relies extensively on proprietary and confidential information. At the heart of the sector resides technological innovation; trade secrets such as engineering methods, source code or algorithms have significant value. Litigation in most countries is usually carried in public, hence confidential information risks being revealed to the public and competitors in the process.

On the contrary, international arbitration is confidential in principle. The parties can either specify a confidentiality obligation in their procedural agreement, or choose existing and recognised arbitration rules which almost systematically include the same (e.g. the arbitration rules of the ICC or the UNCITRAL rules of arbitration). Therefore international arbitration provides an adequate means to decide the dispute while safeguarding the parties' trade secrets.

Global reach
The exponential growth of companies in the technology industry has created companies with a global reach and vested interests in many countries. Wherever these interests lie, these actors will find competent and experienced arbitration institutions to supervise the arbitral proceedings.

Some of these institutions have a global reach and treat disputes on an international level. These include notably the International Chamber of Commerce (ICC) in Paris, and the London Court of International Arbitration (LCIA).

Several regions of the world also have a recognised regional arbitration centre, with a focus on local disputes. For instance, disputes involving Asia may be brought before the Singapore International Arbitration Centre (SIAC), the China International Economic and Trade Arbitration Commission (CIETAC) or the Hong Kong International Arbitration Centre (HKIAC). As for companies with vested interests in Western Africa, they may bring their case within the framework of the Organization for the Harmonisation of Business Law in Africa (OHADA).

Finality
Arbitration is specific in that no appeal on the merits is possible. Once the arbitral tribunal has decided the dispute, annulment of the award may only be requested on a restricted number of grounds. Therefore, arbitration will shield the parties from the time consuming and costly appellate proceedings they would face before national courts.

Enforcement
The recognition and execution of arbitral awards is easier than that of State court decisions. The 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, which has been signed by 154 States, provides for harmonised conditions allowing for a rapid recognition and execution of arbitral awards in the contracting States.

Carmen Núñez-Lagos
Partner, Paris
T +33 1 5367 1858
carmen.nunezlagos@hoganlovells.com

Gauthier Vannieuwenhuyse
Senior Associate, Paris
T +33 1 5367 4745
gauthier.vannieuwenhuyse@hoganlovells.com

www.hoganlovells.com

Hogan Lovells has offices in:

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