



# Semiconductor M&A:

Extracting Value from  
Smaller Deals

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# Executive summary

The demand for semiconductors and the rate of technological advancement in chips have never been greater.<sup>1</sup> Leaders at core semiconductor companies recognize the opportunities in front of them. Yet they need the resources and capabilities to take advantage of those opportunities. While mergers and acquisitions (M&A) have traditionally helped companies get there, today's companies seeking to grow inorganically through large mergers are facing increased regulatory scrutiny. As a result, it is the smaller deals that are on the rise across the industry. This trend is making it critically important for semiconductor companies to learn how to maximize the benefits from these smaller transactions.

**When assessing smaller acquisitions, deal teams must be diligent and maintain perspective of their overall growth strategy, leveraging target screening frameworks. The winners in this landscape will be leaders who can build M&A strength through disciplined divestitures and acquisitions, all while maintaining a clear vision of the future.**



# Semiconductor M&A landscape

The semiconductor industry has been hit by a “perfect storm” — an ecosystem shocked by skyrocketing chip demand, manufacturing limitations, and logistical supply bottlenecks.

The chip shortage of 2021 sparked a crisis in the global economy across all technology sectors. Apple, the world's largest buyer of chips, delayed the launch of its latest iPhone by two months. Samsung, the second-largest buyer and the second-largest producer, faced delays in production of its latest Galaxy smartphone. In addition, the global auto industry was expected to lose ~\$61 billion in revenue in 2021 as a result of the chip shortage.<sup>2</sup>

This supply shortage, combined with an increased political willingness to invest in domestic production, could be an opportunity for the semiconductor industry. In fact, in a sector in which 80% of deal value was below the \$1 billion mark for the last five years, these two developments could revive dealmaking.<sup>3</sup>

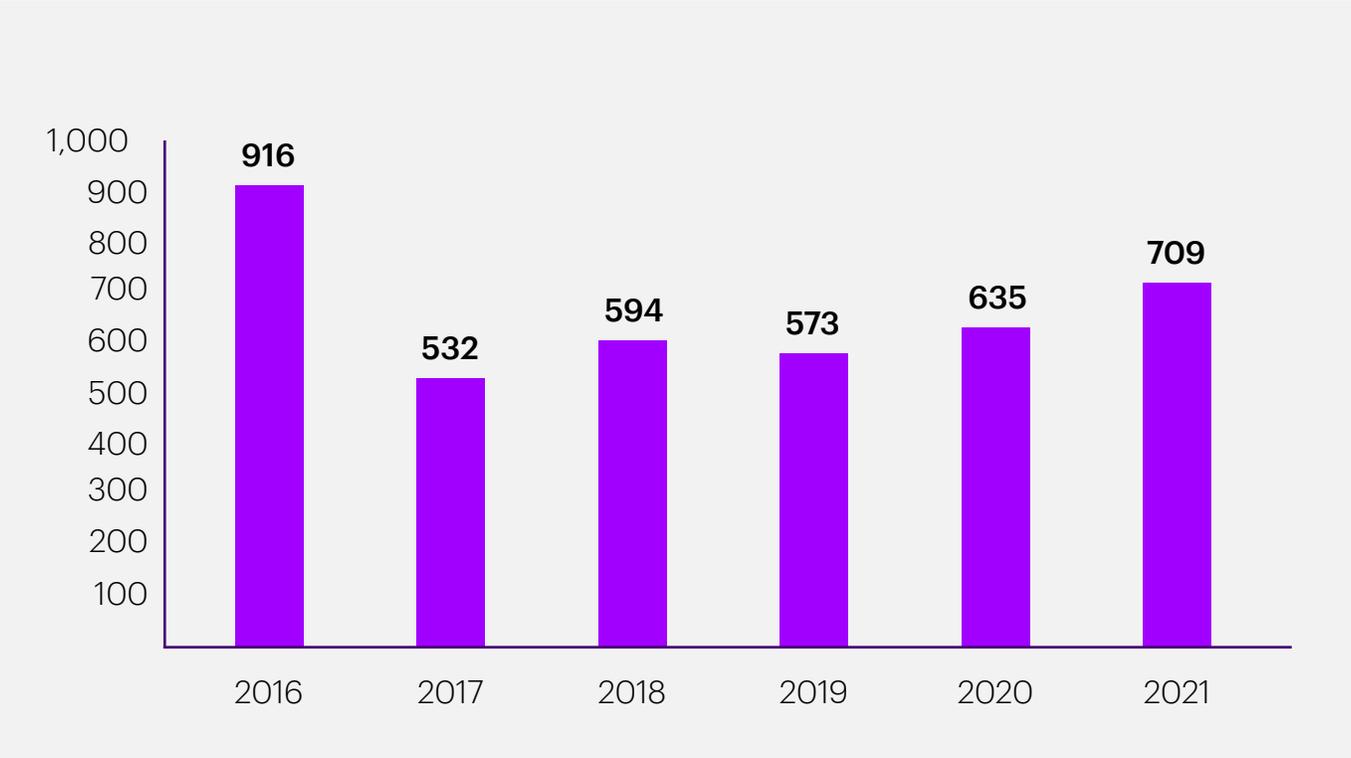
## Geopolitical concerns

The massive demand for semiconductors and their short supply both have a significant impact on end consumers. As a result, the semiconductor chip industry remains at the center of global geopolitical tensions. In addition, there is increased regulatory scrutiny of cross-border transactions and megadeals, in particular are reviewing cross-border transactions with heightened scrutiny, and with changing political administrations.

From 2016 to 2018, government intervention and regulatory restrictions led to a 5X increase in transactions that were blocked or lapsed, resulting in a significant reduction in global M&A transaction value.<sup>4</sup>

The global M&A market industry saw a resurgence in 2021 despite several semiconductor megadeals that were faced with geopolitical challenges and regulatory constraints. These hurdles resulted in smaller transactions being more attractive.<sup>5</sup> In February 2022, the Nvidia-ARM deal (\$40 billion), what would have been the largest semiconductor transaction in history, was called off by Nvidia & Softbank due to significant regulatory scrutiny in multiple countries. Similarly, in 2021, after the news emerged of Intel's proposed acquisition of Global Foundries (GF) for \$30 billion, GF made the surprising announcement that it would be filing for an initial public offering (IPO) instead. Sources cited that "such a combination would upset some of its key customers... [and] could face intense antitrust scrutiny."<sup>6</sup>

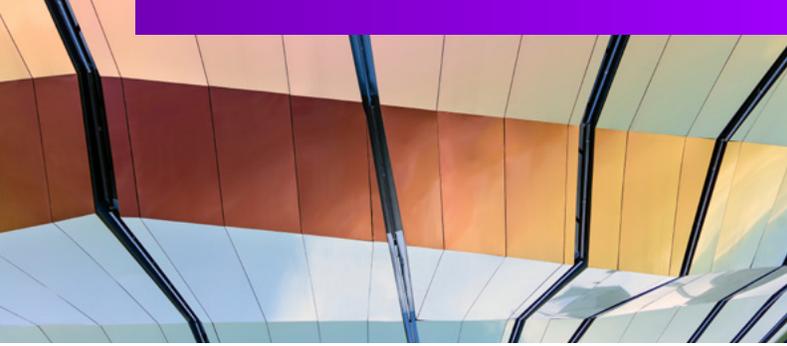
Exhibit 1. **Average Transaction Value of Mergers, Acquisitions, Spinoffs (\$M).**



Source: Accenture analysis of deals closed using S&P Capital IQ data, 2022

Only three deals have closed since 2019 with a total enterprise value greater than \$10 billion—Analog Devices Inc.’s acquisition of Maxim Integrated, Infineon’s acquisition of Cypress Semi and AMD’s acquisition of Xilinx (which took 15 months of regulatory review after the deal was announced). With the failure to complete the Nvidia – ARM deal, it could well be that no additional megadeals of this size will close in 2022.

Deal makers are seeing this trend in the market and in 2021, no transactions greater than \$10 billion were closed.<sup>7</sup>



## Example

### NVIDIA-Arm deal

NVIDIA's \$40 billion bid to buy Arm stood to be the largest semiconductor deal in recent history.<sup>8</sup> That said, there was skepticism that the deal would be able to overcome the scrutiny of EU and British regulators. On October 12, 2021, it was announced that EU antitrust regulators would extend its investigation into the deal by four months, after concessions offered by NVIDIA failed to satisfy its concerns.<sup>9</sup> On December 2, 2021, the Federal Trade Commission (FTC) announced it was suing to block the acquisition, citing the combined firm would stifle competing next-generation technologies.<sup>10</sup>

On February 7, 2022, NVIDIA announced the termination of the Arm pursuit.<sup>11</sup> The pushback this deal has received highlights the difficulty in getting large global deals approved.

## Example

### Qualcomm-NXP deal

In 2018, Qualcomm ended its \$44 billion bid to acquire NXP Semiconductors after failing to secure Chinese regulatory approval. Had the deal gone through, it would have been the largest semiconductor takeover to date. The lack of deal approval highlighted geopolitical factors in securing the regulatory approvals.<sup>12</sup> In addition, it appears that the deal may discourage large mergers between semiconductor companies for fear of insurmountable regulatory obstacles. The deal's failure prompted Qualcomm to buy back \$30 billion in shares to alleviate investor fears, and the company was also required to pay \$2 billion in termination fees to NXP as of July 2018.<sup>13</sup>

Accenture believes that regulatory scrutiny (or even just the threat) towards megadeals is a major reason for the decline of large mergers and an increase in the popularity of smaller deals. As the above example indicates, deals with higher valuations are much more likely to attract international attention and unfavorable outcomes. Failed deals can also have an immense financial impact on the companies involved and, influence decisions around undertaking megadeals in the future.

## Semiconductor M&A landscape

# Smaller deals are prevailing

Semiconductor companies must now get creative to maintain their growth trajectory or risk becoming commoditized by their customers.<sup>14</sup> Smaller M&A deals are an attractive driver of inorganic growth and an accelerator of portfolio rebalancing. Between 2017 and 2020, large blockbuster deals over \$1 billion increased annually as a proportion of total M&A transactions from 2% in 2017 to 8% in 2020. Over the past year and a half, regulatory and market shifts in the chip industry have clearly had an impact. In 2021, this trend has reversed and for the first time since 2017, the proportion of large deals over \$1 billion decreased, shifting back to 5% of overall M&A transactions.<sup>15</sup>





# Challenges and advantages of smaller deals

**For management teams used to executing large deals, adjusting to smaller, more frequent deals can at first be challenging and uncomfortable. However there can be significant advantages to making this strategic pivots. Next, are the top challenges and advantages that Accenture sees for companies looking to take advantage of these smaller transactions.**

# Challenges

Smaller deals have a smaller margin for error to achieve synergy targets.

Smaller deals may present fewer alternative paths to value creation if the deal thesis synergies cannot be operationalized. When evaluating smaller targets, deal teams typically operate with limited availability of data. The value of smaller transactions may be driven by a specific business unit or function, so with limited data, there is greater uncertainty about target companies.

Teams should evaluate the unique corporate culture, back-end systems and processes to ensure effective integration.

Deal teams must hone their ability to execute on merger integration and develop nuanced strategies for different target companies.

Forward-thinking teams will be prudent to limit transaction costs and ensure they stay proportional to deal size. For example, how can leaders plan, prepare, and close ten \$1 billion deals as efficiently as one \$10 billion deal? How will teams quickly determine the correct future state operating model for each acquired business?

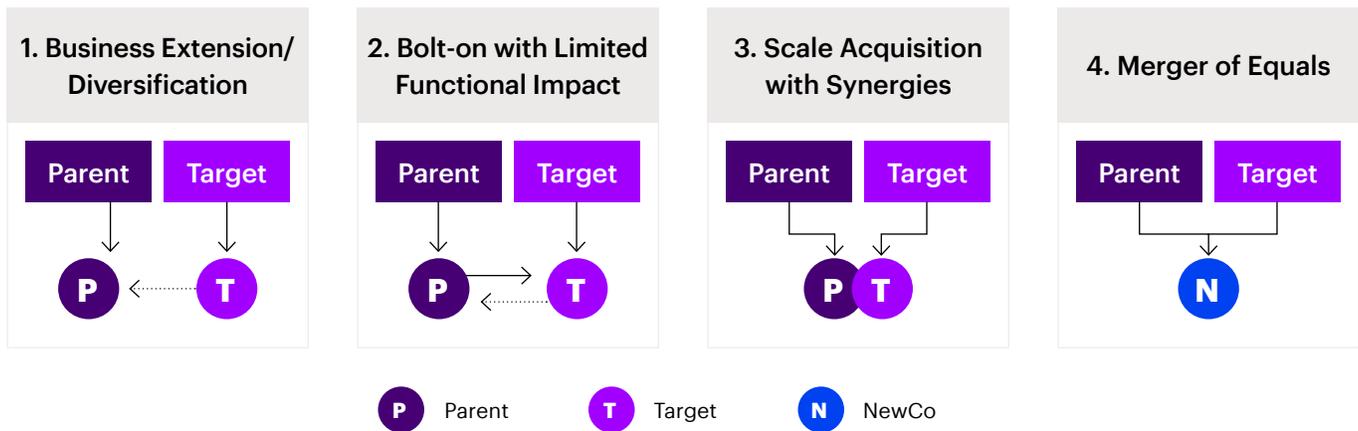
Acquirers will develop clarity on how they will maximize value from each transaction, and their integration strategies should vary based on the deal type.

For example, how can leaders plan, prepare, and close ten \$1B deals as efficiently as one \$10B deal?

# Advantages

Executing more frequent transactions gives deal teams opportunities to experiment and gain experience screening targets, analyzing deal theses, and identifying operational improvements. Essentially, this type of M&A strategy allows teams to “get in reps” and fine tune their integration skills.

Exhibit 2. **Acquisition Integration Framework (Illustrative)**



The size and complexity of the transaction directly influences the type of integration framework that deal teams employ. Typically, the larger the transaction, the more cross-functional integration (e.g., IT systems, other shared services, etc.) is required to achieve business synergies. On the other hand, smaller transactions typically involve more autonomy.

Smaller, more frequent deals make gradual change part of the status quo of an organization, as opposed to the exception. In marquee megadeals, larger culture shock and change management programs may elicit anxiety and undesired attrition.

Organizations can become more flexible to continuous changes in business models and increase their operational agility, compared with organizations which may view M&A as a major business disruption.

Frequent small deals reduce risk by diversifying M&A investment across a portfolio of transactions. No one deal can “sink the ship” and potential consequences to the acquirer are greatly reduced.

## Example

### Intel

Intel provides a valuable case study to understand effective portfolio rebalancing through small and medium-sized transactions. Since 2016, Intel has closed 12 acquisitions with an average transaction value of \$2.8 billion, which is ~1% of its total market capitalization of \$200 billion+. Intel has expanded its footprint into emerging technologies such as self-driving, VR, and 5G (e.g., Mobileye, SigOpt, etc.). Intel has simultaneously divested many of its legacy manufacturing and chip business units, such as its smartphone modem business and fabrication facilities partnerships. Smaller, yet frequent transactions have enabled Intel to place bets on emerging opportunities and maintain its position as a leader in high tech.<sup>16</sup>

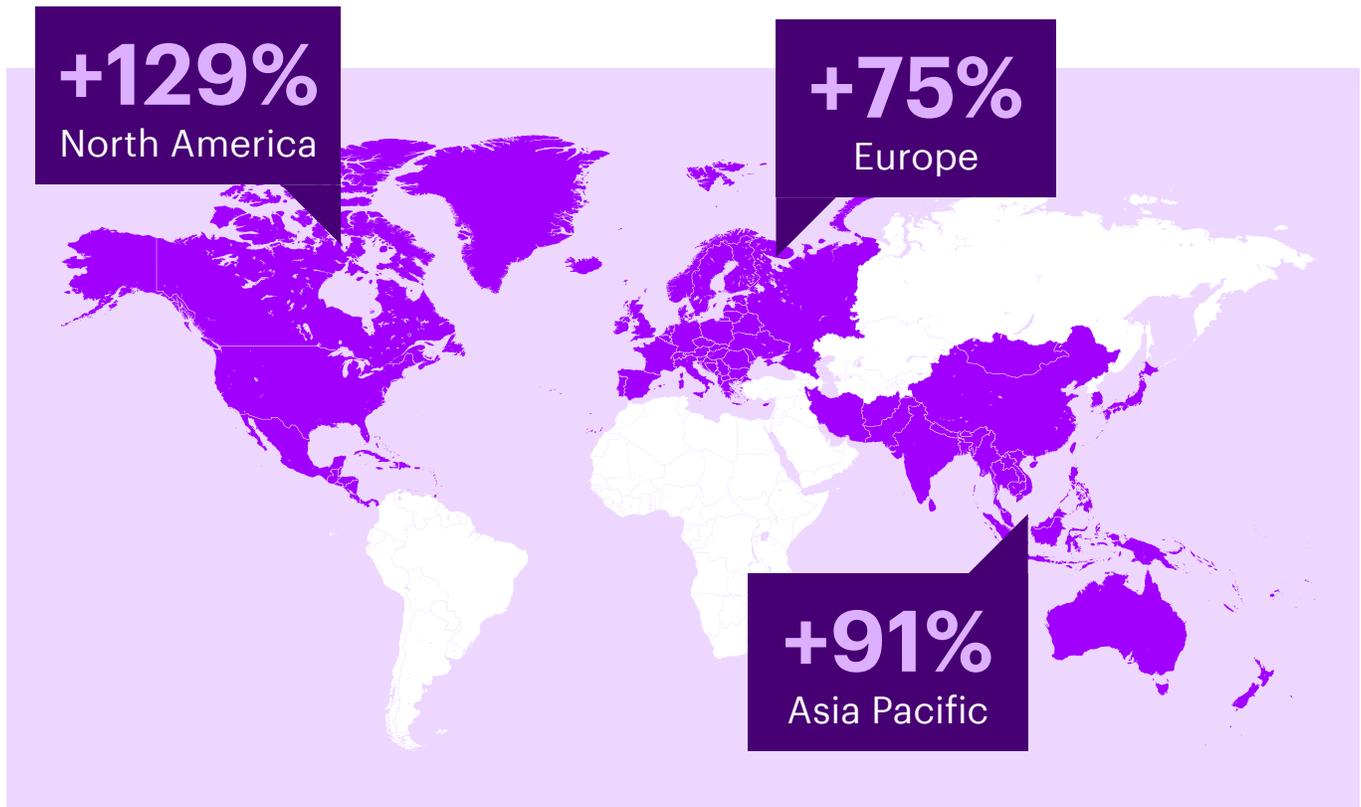
Intel has invested significantly in its M&A capability and has dedicated, experienced teams to support effective analysis and integration. As Intel's in-house IT M&A group stated, "M&A is not simple, but in today's business it is increasingly more common. While many organizations outsource this work, at Intel we have achieved great success by forming a dedicated IT M&A team that handles due diligence as well as integration. With a consistent M&A lifecycle process, we have built years of experience in evaluating, prioritizing, planning, and executing the integration of incoming organizations and the separation of divestitures."<sup>17</sup>



# Extracting value by deal rationale

**Accenture Strategy analysis shows that the average acquisitive company, across industries and regions, completed four acquisitions between 2015 and Q1 2021. The 30 most acquisitive firms made 42 deals on average in the same period. These serial dealmakers outperformed less frequent acquirers, on average, when we analyzed their weighted total shareholder return (TSR).<sup>18</sup>**

Exhibit 3. **Serial dealmakers outperformed less frequent acquirers as measured through weighted TSR**



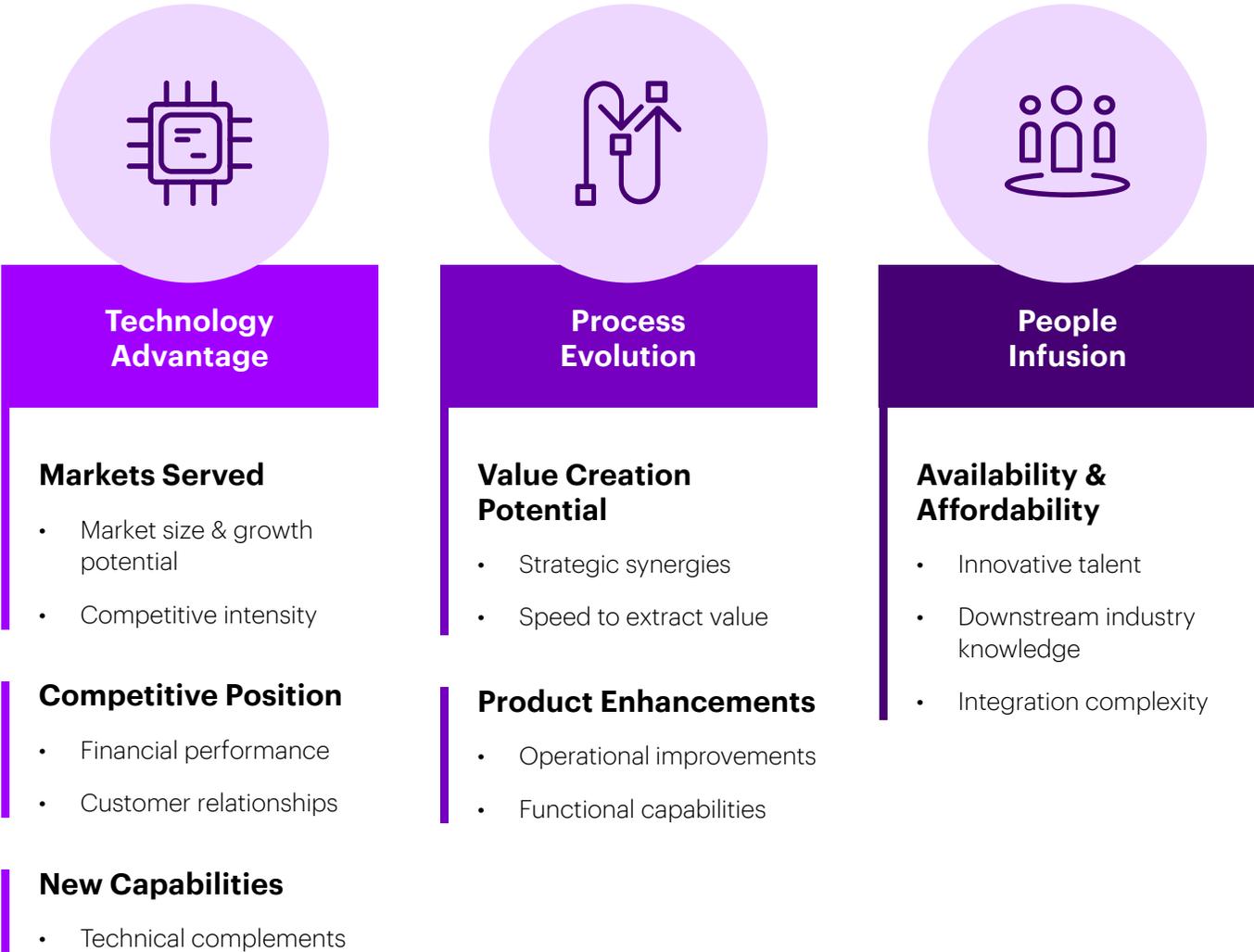
Source: “Building M&A Strength,” Accenture 2021

Firms can maximize integration efficiency and deal profitability by adhering to proven and refined target screening frameworks. Our semiconductor framework includes three key deal rationales:

- 1 Technology Advantage**  
— how firms race toward the next generation of inputs (e.g., chips, batteries, etc.) so they can deliver the next generation of outputs (e.g., cars, devices, etc.)
- 2 Product & Process Evolution**  
— how firms transform the way they work; typically to optimize their operations (e.g., increase scale, decrease costs, etc.)
- 3 People Infusion**  
— how firms leverage transactions to bolster their human capital potential (e.g., hiring entrepreneurial founders, niche experts, and innovative talent).

Before we dive into each component, it is important to look at this development through a wider lens.

Exhibit 4. **Semiconductor Target Screening Framework (Illustrative)**

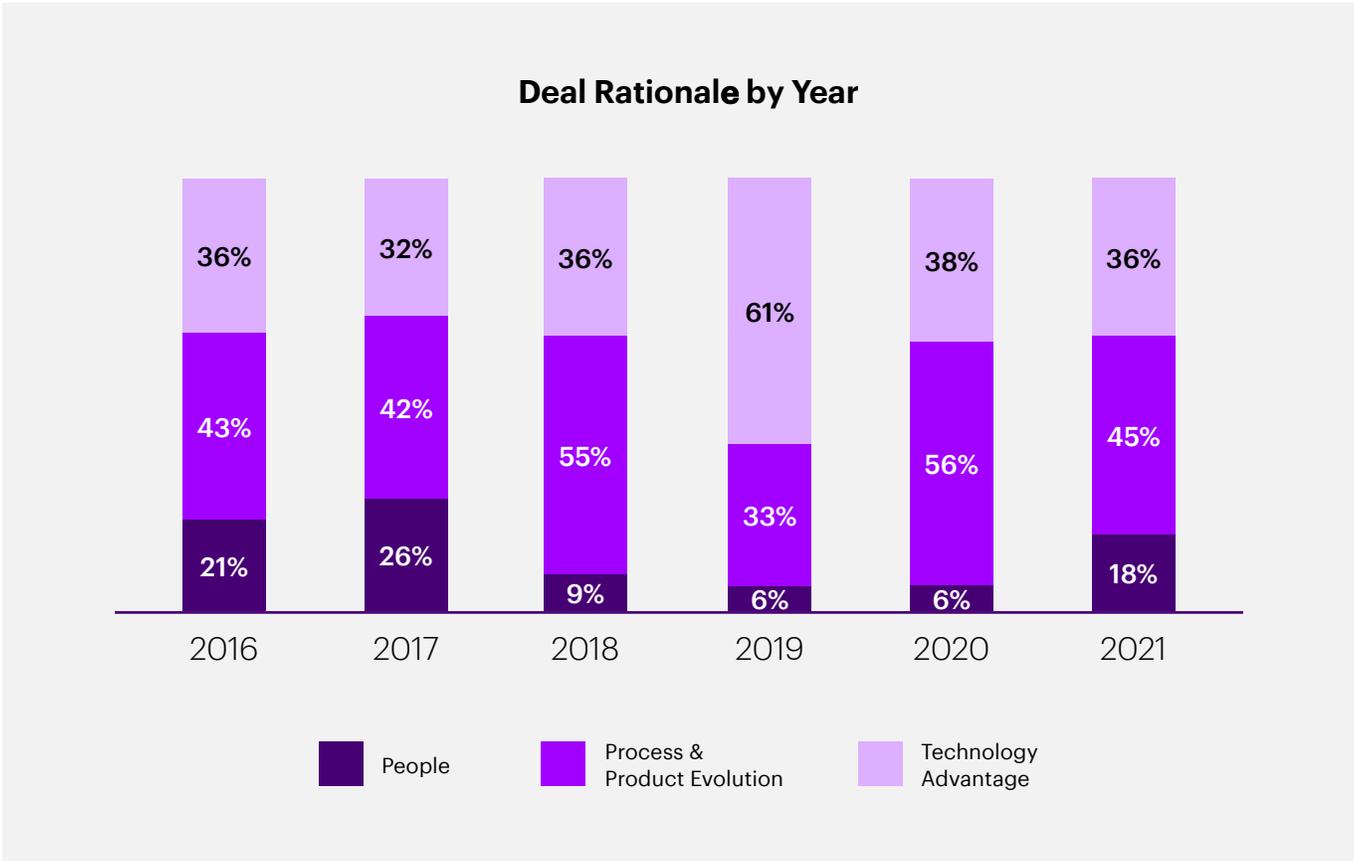


Source: "Semi M&A: "How to Extract Value from Smaller Deals," Accenture 2021

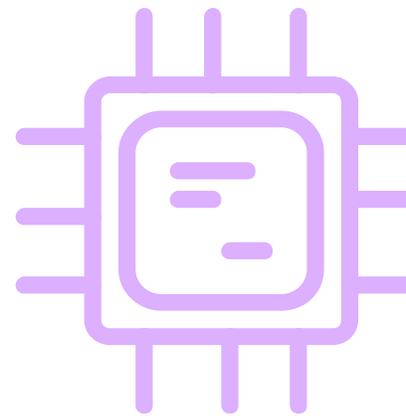
**To develop our Target Screening Framework, Accenture randomly sampled approximately 100 deals from a population of 450+ semiconductor transactions, spanning from 2016-2021, and then analyzed the deal rationale. Below are the key results:**

- 1 Technology Advantage**  
—remained relatively constant in relation to the other frameworks over this period, however there was a significant spike in 2019.
- 2 Product & Process Evolution**  
—slowly increased over this period, although it saw the most dramatic changes in 2018 and 2020.
- 3 People Infusion**  
—decreased in proportion to other frameworks initially, but it has been trending upward since 2019.

Exhibit 5. Deal Rationale by Year, n = random sample of ~100 Semiconductor transactions



Source: S&P Capital IQ, Accenture Analysis



## Extracting value by deal rationale

# Technology advantage deep dive

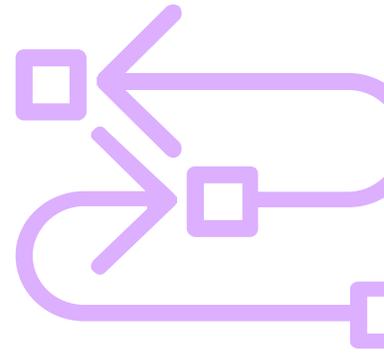
In semiconductor M&A, the name of the game an important objective is to gain new technologies to expand or enhance the product portfolio.<sup>19</sup> For example, among established companies, around 35% of high tech acquisitions are primarily motivated by filling specific product-related voids.<sup>20</sup>

Qualcomm's acquisition of Nuvia is an example of how a smaller player may "develop leading performance as on-demand computing increases in the 5G era." Likewise, Analog Devices Inc.'s (ADI) acquisition of Maxim Integrated allowed ADI to increase its market size and growth potential, and it is expected to help ADI sell through new channels and increase its customer base—especially within the automotive and data center markets. Furthermore, in highly specialized areas, such as Xilinx's software development, acquiring a company may simply be less costly than developing in-house.

Another example is the proposed acquisition of CMC Materials by Entegris in a cash and stock transaction with an enterprise value of approximately \$6.5 billion. Through this acquisition, Entegris will be able to accelerate innovation capabilities through greater R&D scale and expanded IP portfolio.

In addition, Entegris' deep expertise in purification, contamination control and advanced materials will enhance CMC Materials' long-term technology advancement.<sup>21</sup>

If technology advantage is the driving factor for a deal, acquirers must ensure their pre-close planning defines how the new tech stack will complement existing functions or run as a new entity. The fundamental rule to keep in mind here is "Don't disrupt what's working today." To that end, it is critical to preserve existing sales channels as well as the brand capital that both parent company and target company have developed over time. A perfect example is Intel's acquisition of Rivet Networks, which complemented Intel's PC Wi-Fi products, where the company had a leading role for two decades. Rivet complemented Intel's existing Wi-Fi products and was integrated into Intel's Wireless Solutions Group within the Client Computing Group.<sup>22</sup>



## Extracting value by deal rationale

# Process & product evolution deep dive

In addition to investing in transformational technology (a long-term play), semiconductor companies are transforming the way they work (a short-term play) by using M&A to acquire physical assets that can help them optimize their operations to become more competitive. This includes both internal processes such as performance management and salesperson incentives, as well as structural operations such as real estate footprint and digital marketplaces. For example, like many other high tech firms, semiconductor companies are moving away from selling widgets (chips) to selling software-as-a-service (SaaS)—and that requires new sales capabilities and tools.

Some companies are also on the hunt for capabilities that can help them shore up their supply chains. As pipeline growth slows for more mature firms, semiconductor companies need to scale raw material sourcing for immediate production or storage for product delivery. For instance, in the face of current chip shortages, some semiconductor companies are purchasing fabs to secure production capacity. That's what semiconductor company Nexperia did, snapping up the United Kingdom's largest fab, Newport Wafer Fab.<sup>23</sup> That deal will enable Nexperia to become more independent in production relatively quickly, avoiding the years of lead time required to build a new fab itself.<sup>24</sup>

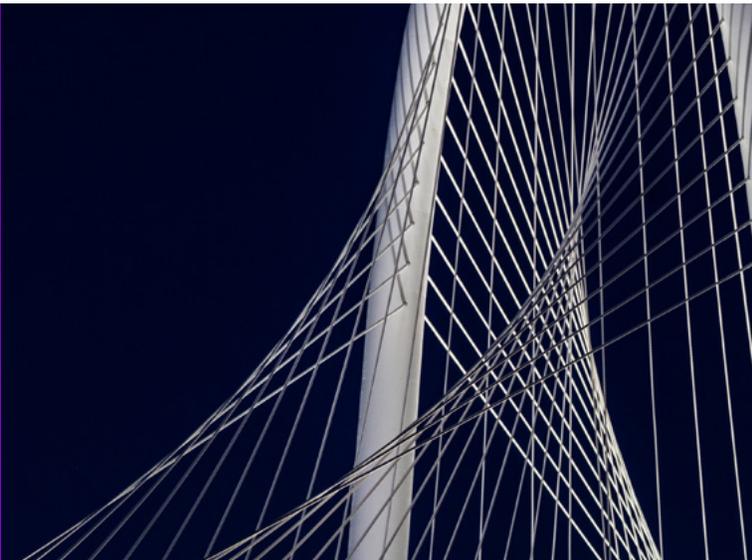
## Example

# Intel IDM Manufacturing Strategy and Tower Acquisition

In March 2021, Intel CEO Pat Gelsinger announced its IDM 2.0 strategy for manufacturing, innovation and product leadership. IDM 2.0 is a major evolution of Intel's integrated device manufacturing (IDM) model. Gelsinger announced significant manufacturing expansion plans, starting with an estimated \$20 billion investment to build two new factories in Arizona. He also announced Intel's plans to become a major provider of foundry capacity in the U.S. and Europe to serve customers globally.<sup>25</sup>

Intel's investment will further position itself as a leader in semiconductor and integrated device manufacturing. The company's newly formed, standalone business unit, Intel Foundry Services, is expected to optimize its internal capabilities (reducing costs) and expand its global network (driving new revenue).

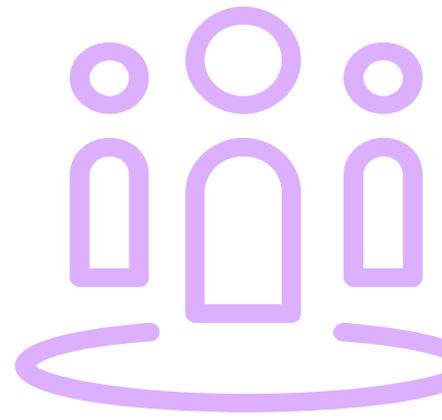
Expanding on Intel Foundry Services, in February 2022, Intel announced the acquisition of Tower Semiconductor. Gelsinger commented, "Tower's specialty technology portfolio, geographic reach, deep customer relationships and services-first operations will help scale Intel's foundry services and advance our goal of becoming a major provider of foundry capacity globally. [Read more](#)



## Example

# Qorvo-Decawave acquisition

Qorvo, a developer of radio frequency (RF) ICs, announced its \$400 million acquisition of Decawave, a fabless semiconductor company that develops UWB technologies, chips and modules. Decawave said the acquisition will advance market penetration of IR-UWB (impulse radio UWB), which enables more precise location information compared to other wireless technologies such as GPS, Wi-Fi, and Bluetooth.<sup>26</sup>



## Extracting value by deal rationale

# People infusion deep dive

Some market players continue to pursue transactions that are primarily motivated by human capital and the need to infuse new talent and expertise. That is especially true today, as semiconductor companies increasingly need a workforce that's trained in software engineering, AI, and big data techniques, in addition to standard, core engineering skills. Acquiring the right talent can deepen industry knowledge, help transform a brand, and improve overall collaboration.

Microchip's acquisition of high-level synthesis tool provider LegUp Computing simplified development of Microchip's PolarFire FPGA-based edge compute solution. Bruce Weyer, VP of FPGA business unit at Microchip claimed, "The LegUp team brings us deep experience in high-level synthesis and related technologies as we continue to optimize the integrated design environment tool flows for our PolarFire FPGA and PolarFire SoC customers."<sup>27</sup>

From our experience working with clients, we continue to see the importance of establishing a talent strategy early in the deal lifecycle. An increasing number of deals are inked so companies can gain innovation capabilities and the talent that fuels them. Talent needs to come to the forefront in M&A integration.<sup>28</sup>

Regardless of the deal thesis, the priority for companies should be to avoid culture shock and minimize attrition. If an acquiring company is buying a target for its people, the last thing they want to see is that talent leaving. To avoid this, firms must have a tailored plan to integrate culture and maintain momentum throughout the integration execution timeline. This should include vesting incentives that are aligned with the company's transformation goals and providing autonomy to the target company leadership. It's also helpful to use a fit-for-purpose approach to talent and to proactively gauge how well the target company aligns with current culture at the acquiring firm.<sup>29</sup>

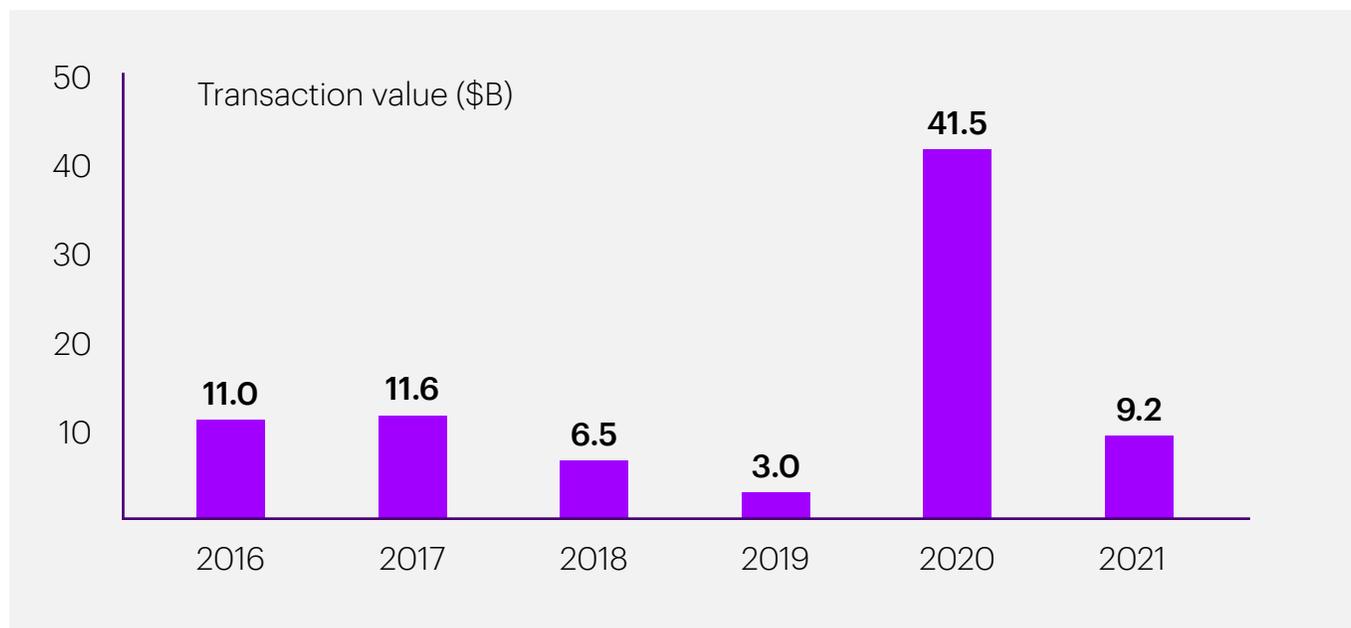


# Implications for private equity (PE) firms and corporate deal teams

Innovative firms (both PE and corporate) are focused on purchasing smaller entities with the intention to “plug-and-play.” This allows companies to improve upon their existing product offerings by purchasing technological advantages from the seller, or to bring capabilities in-house that may not have existed previously at the acquiring company.

Looking forward into 2022, large semiconductor firms are hungry to expand capacity due to a robust demand side outlook. As a result, valuations for small and medium-sized semiconductor businesses are at near all-time highs.<sup>30</sup> If deals continue to trend toward smaller plays, we believe that a resurgence in PE deals is to be expected.

Exhibit 6. **Acquisitions in Semiconductors & Semiconductor Industries with PE Involvement by Year**



Source: S&P Global Market Intelligence

PE firms may also see the current market trends as an opportunity to invest in divested businesses, emerging technology, advanced manufacturing, and design automation. A recent example is Thomas H. Lee Partners LP’s announcement to acquire Brooks Automation’s semiconductor solutions business. This transaction was on track to be the largest semiconductor deal involving PE firms in 2021 and the fourth largest since 2016, according to S&P Global Market Intelligence.<sup>31</sup>

Smaller transactions also provide opportunities for corporate deal teams. While steady demand attracts PE investors, high valuations for legacy assets support divestiture and portfolio rebalancing. Corporate development teams should reevaluate their growth plans and determine the appropriate time for change. Semiconductor companies may want to rethink “traditional one-and-done M&A” and consider alternative plays to leverage as part of portfolio rebalancing. Alternative plays include timely divestitures, expanding joint venture activity, and focusing on smaller, strategic dealmaking.



In the sale of Brooks Automation mentioned above, President and CEO Steve Schwartz commented, “We are proud of the highly innovative automation business that we have built, which has seen great success in the semiconductor industry. We look forward to its continued growth under THL’s ownership. We are equally proud of the strength and growth of our life sciences business and excited by the significant proceeds from this transaction which will afford strategic investments in a market where we see tremendous opportunity.”<sup>32</sup>

Corporations may look to joint ventures to unlock mutually beneficial value by gaining access to manufacturing capacity, exchanging IP, and developing research partnerships. Each of these nuanced growth strategies requires a disciplined and strategic approach. Utilizing target screening frameworks offer a useful playbook for how to best achieve this.<sup>33</sup>

Corporate deal teams should also look to divestitures as a strategic tool in this ever-fragmented M&A landscape, rather than just a lifeboat to expel stagnant businesses. Research from The Wharton School analyzing historic transactions found that divestitures create more than double the shareholder value of traditional mergers and acquisitions. Professor Emilie Feldman argues that “the forward-thinking executive... will continue to look to divestitures as a proactive strategic tool with which to manage corporate scope in a value-additive manner.”<sup>34</sup>

# Conclusion

With the market trending towards smaller, more frequent transactions, it is now more important than ever to assess targets in a disciplined manner and build strategic M&A muscle for your organization.

A clear and consistent target screening framework provides a foundation through which to understand how transactions will impact your future organization and align against your strategic objectives.

While supply shortages and rising demand continue to apply pressure on the global semiconductor market, take the time to evaluate the technology advantage, product and process evolution, and people infusion associated with your next move.

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Accenture Semiconductor is committed to working with semiconductor manufacturers and companies to help capitalize on the opportunities created by digital disruption and optimize efficiencies across product development, manufacturing, supply chain and business operations. We have deep relationships, experience, and expertise across the semiconductor ecosystem: IDM, IP designers, fabless, foundries and equipment manufacturers. We also have dedicated practice areas and proven results in growth strategy, mergers and acquisitions, engineering operations, silicon design services, supply chain operations, system implementation and manufacturing analytics. [www.accenture.com/semiconductors](http://www.accenture.com/semiconductors)

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