

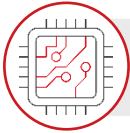


# Semiconductor – Tools, Test & Verification

2019 Review

# Semiconductor

## Tools, Test & Verification Subsector Market Review 2019



### Introduction

#### Semiconductor Market Overview:

- In 2019 the global Semiconductor market recorded a decrease in revenue of 11.9% to \$418.3bn<sup>1</sup>. The oversaturation of traditional end products, resulting in falling demand and reduced prices, became contributing factors to this decline, along with the economic uncertainties fuelled by the continuation of the US-China trade war
- The industry, however, is poised for strong growth with global sales expected to increase by 5.9% and 6.3%, in 2020 and 2021 respectively<sup>2</sup> as emerging technologies, especially artificial intelligence, act as the catalysts for new global demand

#### Tools, Test & Verification Market Overview:

- The Tools, Test and Verification subsector, the main focus of this report, followed the same pattern as the overall Semiconductor industry in 2019, with sales suggesting a drop of 10.5% to \$57.6bn following a historic high of \$64.4bn in 2018<sup>3</sup>
- With the development of new technologies, the trend for miniaturisation and investment in sub-10nm equipment, this subsector is set for expansion with forecasts showing a 5.5% increase in sales to \$60.8bn in 2020<sup>3</sup>



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Matthew Byatt is a Managing Partner at Acuity Advisors and leads the company's Semiconductor practice. Matthew has over 25 years' experience in the Semiconductor sector having originally started his career as an engineer working on digital signal processing ICs. He continued his career working in M&A roles at Cadence and ARM before joining Acuity Advisors in 2008.

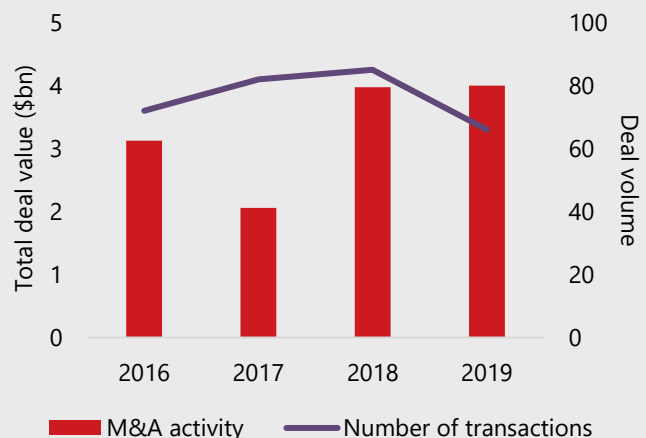
Today, Acuity Advisors is one of the world's most successful mid-market advisory firms in the Semiconductor sector working across EDA, IP and Design Services, Capital Equipment and ASSP/ASIC Chip companies. Acuity Advisors have sold businesses to a variety of companies including Broadcom, Qualcomm, KLA, Mellanox, Dialog Semiconductor, ARM and Naura



### Mid-Market<sup>4</sup> M&A Analysis for the Tools, Test & Verification Subsector

#### Mid-Market<sup>4</sup> Deal Values & Volumes<sup>5</sup> (2016-2019)

- In 2019 global mid-market transaction volumes for the Tools, Test and Verification subsector, stood at 66, with a total transaction value of \$3.99bn, in comparison to the 85 deals recorded in 2018, with a combined value of \$3.97bn
- Despite a 22% decrease in deal volumes, deal value slightly rose in 2019, with 8% of deals posting deal values of \$300m+, including the acquisition of NuFlare Technology by Toshiba (\$399m)
- After a period of consolidation within the Semiconductor industry as a whole (the number of Semiconductor companies fell from 208 in 2012 to 173 by 2017<sup>6</sup>) the advent of emerging technologies will see companies continue to leverage on M&A in specialised verticals. This will allow them to acquire advanced technologies, maintain a competitive edge and gain entry into new markets










Source: Capital IQ, Acuity Advisors Intelligence; Note: 1. Gartner – Press Release 2. Semiconductor Industry Association 3. SEMI - Global Semiconductor Equipment Sales Forecast 4. Mid-Market – Transactions with deal values in the range 25-500 (\$m) 5. Includes deals with undisclosed transaction values 6. McKinsey Semiconductors Report Oct 2019

# Tools, Test & Verification

## Mid-Market<sup>1</sup> M&A Analysis (Cont.)

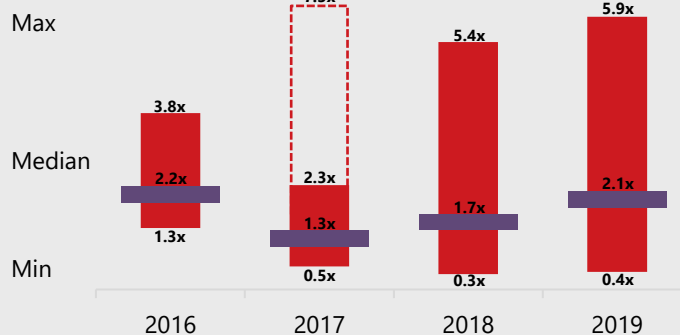
### Top Mid-Market<sup>1</sup> Deals (2019)

Acquired by	Acquired by	Acquired by	Acquired by	Acquired by
				
Date: 19/03/2019 Deal Metrics: Not Disclosed	Date: 09/12/2019 Deal Metrics: Not Disclosed	Date: 09/10/2019 Deal Value: \$27.60m	Date: 13/11/2019 Deal Value: \$399.04m EV/Revenue: 1.7x EV/EBITDA: 7.37x	Date: 24/05/2019 Deal Metrics: Not Disclosed
Transaction: 	Transaction: 			

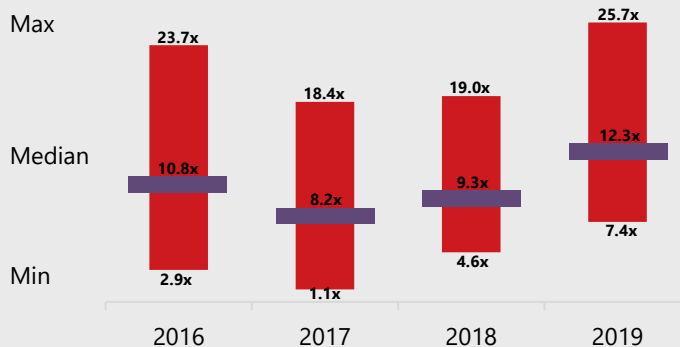
### Mid-Market<sup>1</sup> Valuation Analysis

- Tools, Test and Verification multiples saw a rebound after a fallback in 2017 (median of EV/Rev multiple was 1.3x and EV/EBITDA was 8.2x). Both revenue and EBITDA multiples expanded over 2018 and 2019, indicating future growth potential and increased competitive tension
- Emerging technologies such as Autonomous Driving, Artificial Intelligence, 5G and Internet of Things will continue to generate demand for more advanced chips, and the Tools, Test and Verification subsector plays an integral part in facilitating the next generation of these as the manufacturing process becomes more complex. This will encourage Semiconductor players to invest in new equipment and fabrication capability<sup>2</sup>
- Competition from outside the Semiconductor industry continues, as leading technology businesses pursue acquisitions to give them the capabilities to design custom chips<sup>3</sup>

#### Precedent Transactions (2016-2019) – EV/Revenue Multiples



#### Precedent Transactions (2016-2019) – EV/EBITDA Multiples



Source: Capital IQ, Acuity Advisors Intelligence; Note: 1. Mid-Market – Transactions with deal values in the range 25.0-500.0 (\$m) 2. McKinsey Semiconductor Insight – Capital equipment: Will further shrink bring growth? 3. Accenture report: Recharge Semiconductor Growth with M&A

# Semiconductor

## Market Dynamics – Share Price & Multiple Evolution

### Share price movement: 2016-2019

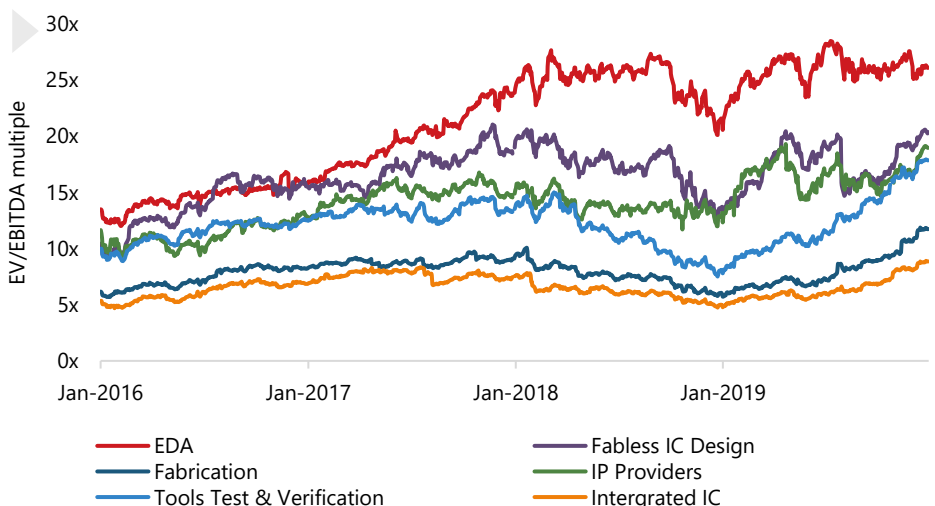
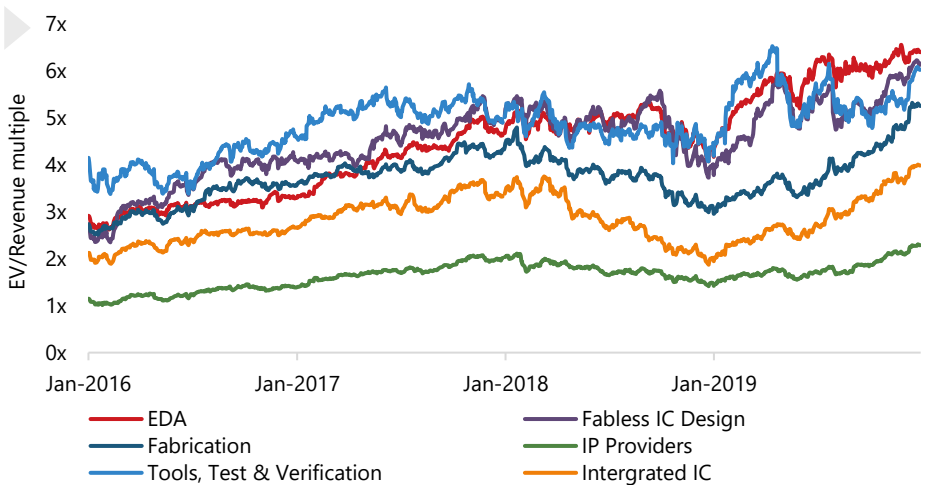
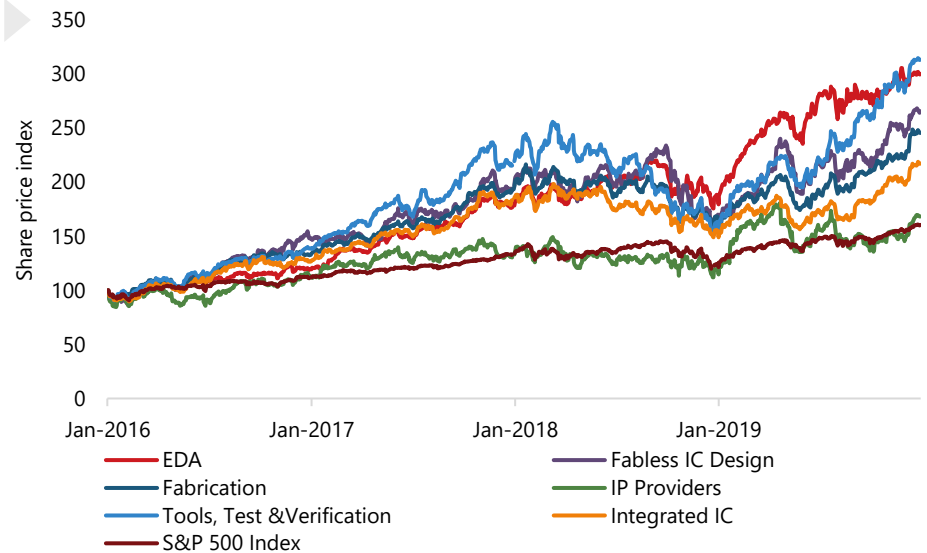
- Over the last four years the Semiconductor industry as a whole has been able to outperform the S&P 500 Index, with Tools, Test and Verification generally outperforming the other segments of the industry
- The Semiconductor market contracted at the end of 2018 and again in mid-2019, both of which were in line with the S&P 500. The global Tools industry showed a significant decline during the initial downturn, but has since recovered and is now outperforming the rest of the industry

### EV/Revenue multiples: 2016-2019

- The Tools, Test and Verification multiple is trading at the higher end of the industry ranges, showing an overall multiple expansion between Jan 2016 and April 2019
- Periods of multiple decline are concurrent with the contraction of share price value during late 2018 and mid-2019
- Since Jan 2019 the Tools multiple has demonstrated a higher degree of volatility in comparison to Fabrication, Integrated IC, EDA and IP providers

### EV/EBITDA multiples: 2016-2019

- Over time, multiples have shown a trend of overall expansion, with EDA demonstrating the largest growth
- The extent of the expansion has varied across the subsectors as the multiples have diverged over time
- The global Tools industry is operating towards the lower end of the range, however, it has recovered well from the decline in Jan 2019, experiencing a strong uptick



Source: Capital IQ

# About Acuity Advisors



## 25 Strong Team

- We are a highly experienced European M&A and Debt Advisory team
- Partner-led approach to every engagement



## 160+ Exits

- Expertise and experience in the technology sector
- The Acuity Advisors team has sold over 400 businesses



## 16 Mandates

- We are focused on European and US sell-side exit processes in the mid-market to both trade and private equity
- Selective equity raising
- Debt financing



## International

- Offices in London (UK), Munich (Germany) and Shanghai (China)
- 70%+ of exits are cross border



## 48% Uplift

- We see an average 48% increase in price
- Achieved through a tenacious approach, creative IMs and strong negotiation skills



## 85% Success

- Industry-leading metric: 85% of our mandates complete successfully
- A proven ability to deliver maximum value and certainty

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