

# Junior Mine 2018

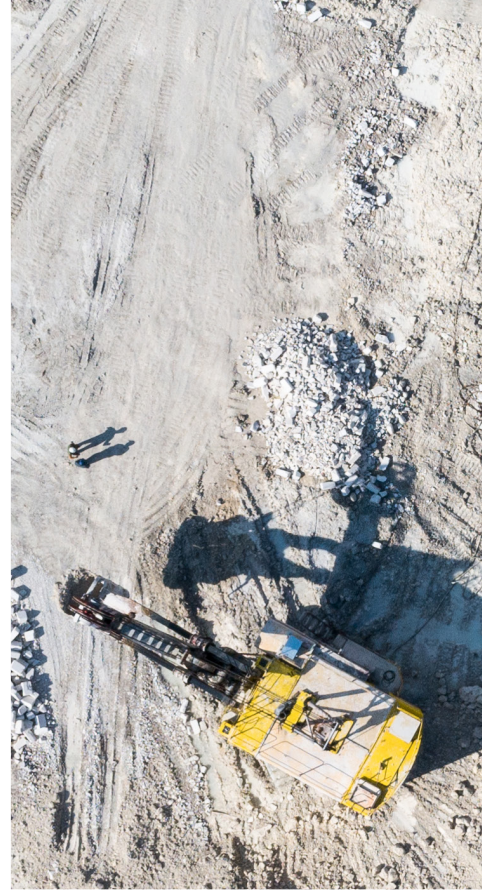
A period of opportunity

Our analysis of the top 100 junior mining  
companies on the TSX Venture Exchange



**pwc**





# Rising fortunes

**After several years of financial turmoil and a gradual recovery, the junior mining sector experienced a relatively quiet year in 2018. It was defined by moderate changes in most commodity prices and growing investor enthusiasm for business models built on royalty streams and new technologies.**

The aggregate market value of the sector climbed for the third consecutive year, but at less than half the rate of the overall TSX Venture Exchange (TSX-V). While junior mining companies have managed to recover well from the industry downturn in 2015, other emerging

sectors of the economy showing potential for significant growth have captured investors' attention. These include the legal cannabis trade, FinTech start-ups and cryptocurrencies.

The leaders among this year's top 100 junior miners on the TSX-V illustrate the market's preference for mines moving out of development and into production. They also indicate a desire among investors for new opportunities that rely more on innovation than the volatility of the commodity cycle to produce healthy returns. Two of the top five companies—Cobalt 27 Capital Corp. and Maverix Metals Inc.—use a business model that seeks



## About this report

In *Junior Mine 2018*, we've analyzed the top 100 junior mining companies by market capitalization on the TSX Venture Exchange for the 12-month period ended June 30, 2018. The report offers a snapshot of the sector's overall health for that period, and the outlook for some of the companies highlighted may have shifted since that time.

to replace risk from operations with steady streams of royalty payments.

Perhaps the most positive trends in this year's data are the growing strength of organizations' balance sheets and management teams' wise use of capital, which was so difficult to come by just a few years ago. Outlays increased moderately, while cash balances grew by more than 20%.

With coffers at their fullest in seven years, equity and debt financings on the rise and commodity prices relatively stable, the industry has entered a long-awaited period of opportunity.



# Top 100 companies

For the twelve-month period ended June 30 2018

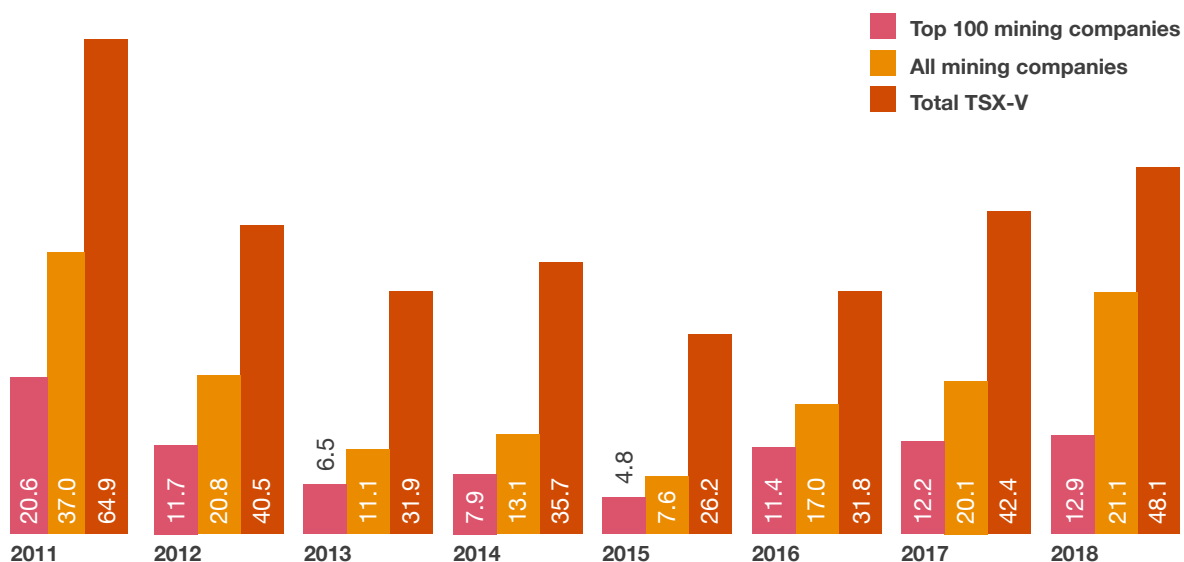
1	<b>TSXV:KBLT</b>	Cobalt 27 Capital Corp.	51	<b>TSXV:CKG</b>	Chesapeake Gold Corp.
2	<b>TSXV:NVO</b>	Novo Resources Corp.	52	<b>TSXV:CAND</b>	Candelaria Mining Corp.
3	<b>TSXV:EQX</b>	Equinox Gold Corp.	53	<b>TSXV:PLU</b>	Plateau Energy Metals Inc.
4	<b>TSXV:AGB</b>	Atlantic Gold Corporation	54	<b>TSXV:EVM</b>	Evrmin Resources Corp.
5	<b>TSXV:MMX</b>	Maverix Metals Inc.	55	<b>TSXV:SLL</b>	Standard Lithium Ltd.
6	<b>TSXV:GGI</b>	Garibaldi Resources Corp.	56	<b>TSXV:SGI</b>	Superior Gold Inc.
7	<b>TSXV:GRZ</b>	Gold Reserve Inc.	57	<b>TSXV:HUD</b>	Hudson Resources Inc.
8	<b>TSXV:IFOS</b>	Itafos	58	<b>TSXV:LA</b>	Los Andes Copper Limited
9	<b>TSXV:VIT</b>	Victoria Gold Corp.	59	<b>TSXV:NEM</b>	Northern Empire Resources Corp.
10	<b>TSXV:WAF</b>	West African Resources Limited	60	<b>TSXV:NEE</b>	Northern Vertex Mining Corp.
11	<b>TSXV:OLA</b>	Orla Mining Ltd.	61	<b>TSXV:ATC</b>	ATAC Resources Ltd.
12	<b>TSXV:AFM</b>	Alphamin Resources Corp.	62	<b>TSXV:MJS</b>	Majestic Gold Corp.
13	<b>TSXV:NUAG</b>	New Pacific Metals Corp.	63	<b>TSXV:PML</b>	Panoro Minerals Ltd.
14	<b>TSXV:LUM</b>	Lumina Gold Corp.	64	<b>TSXV:WGO</b>	White Gold Corp.
15	<b>TSXV:SIL</b>	SilverCrest Metals Inc.	65	<b>TSXV:BME</b>	Barsele Minerals Corp.
16	<b>TSXV:BGM</b>	Barkerville Gold Mines Ltd.	66	<b>TSXV:OM</b>	Osisko Metals Incorporated
17	<b>TSX:MYA</b>	Maya Gold & Silver Inc.	67	<b>TSXV:FL</b>	Frontier Lithium Inc.
18	<b>TSXV:LLG</b>	Mason Graphite Inc.	68	<b>TSXV:CPM</b>	Crystal Peak Minerals Inc.
19	<b>TSXV:BCM</b>	Bear Creek Mining Corporation	69	<b>TSXV:MQR</b>	Monarques Gold Corporation
20	<b>TSXV:AOT</b>	Ascot Resources Ltd.	70	<b>TSXV:ARU</b>	Aurania Resources Ltd.
21	<b>TSXV:FIL</b>	Filo Mining Corp.	71	<b>TSXV:LSC</b>	LSC Lithium Corporation
22	<b>TSXV:ORE</b>	Orezone Gold Corporation	72	<b>TSXV:THX</b>	Thor Explorations Ltd.
23	<b>TSXV:ML</b>	Millennial Lithium Corp.	73	<b>TSXV:SME</b>	Sama Resources Inc.
24	<b>TSXV:FCC</b>	First Cobalt Corp.	74	<b>TSXV:AU</b>	Aurion Resources Ltd.
25	<b>TSXV:PGM</b>	Pure Gold Mining Inc.	75	<b>TSXV:MTO</b>	Metanor Resources Inc.
26	<b>TSXV:MGG</b>	Minaurum Gold Inc.	76	<b>TSXV:LIO</b>	Lion One Metals Limited
27	<b>TSXV:REG</b>	Regulus Resources Inc.	77	<b>TSXV:FOM</b>	Foran Mining Corporation
28	<b>TSXV:KNT</b>	K92 Mining Inc.	78	<b>TSXV:NAN</b>	North American Nickel Inc.
29	<b>TSXV:PRB</b>	Probe Metals Inc.	79	<b>TSXV:NUG</b>	Nulegacy Gold Corporation
30	<b>TSXV:TK</b>	Tinka Resources Limited	80	<b>TSXV:GTT</b>	GT Gold Corp.
31	<b>TSXV:CRE</b>	Critical Elements Corporation	81	<b>TSXV:PAC</b>	Pacton Gold Inc.
32	<b>TSXV:GBU</b>	Gabriel Resources Ltd.	82	<b>TSXV:RBX</b>	Robex Resources Inc.
33	<b>TSXV:NLC</b>	Neo Lithium Corp.	83	<b>TSXV:NMI</b>	Namibia Critical Metals Inc.
34	<b>TSXV:SGMA</b>	Sigma Lithium Resources Corporation	84	<b>TSXV:KAR</b>	Karmin Exploration Inc.
35	<b>TSXV:WML</b>	Wealth Minerals Ltd.	85	<b>IQ3176567</b>	Atacama Pacific Gold Corporation
36	<b>TSXV:NOT</b>	Noront Resources Ltd.	86	<b>TSXV:AMZ</b>	Azucar Minerals Ltd.
37	<b>TSXV:AAL</b>	Advantage Lithium Corp.	87	<b>TSXV:GPY</b>	Golden Predator Mining Corp.
38	<b>TSXV:RZZ</b>	Abitibi Royalties Inc.	88	<b>TSXV:ZNX</b>	Zincx Resources Corp.
39	<b>TSXV:CSO</b>	Corsa Coal Corp.	89	<b>TSXV:SRG</b>	SRG Graphite Inc.
40	<b>TSXV:EMX</b>	EMX Royalty Corporation	90	<b>TSXV:SFR</b>	Sandfire Resources America Inc.
41	<b>TSXV:CGP</b>	Cornerstone Capital Resources Inc.	91	<b>TSXV:MD</b>	Midland Exploration Inc.
42	<b>TSXV:FPC</b>	Falco Resources Ltd.	92	<b>TSXV:DAN</b>	Arianne Phosphate Inc.
43	<b>TSXV:RUP</b>	Rupert Resources Ltd.	93	<b>TSXV:CAD</b>	Colonial Coal International Corp.
44	<b>TSXV:TSN</b>	Telson Mining Corporation	94	<b>TSXV:RIO</b>	Rio2 Limited
45	<b>TSXV:LITH</b>	Lithium Chile Inc.	95	<b>TSXV:RGD</b>	Reunion Gold Corporation
46	<b>TSXV:BTR</b>	Bonterra Resources Inc.	96	<b>TSXV:UCU</b>	Ucore Rare Metals Inc.
47	<b>TSXV:MRZ</b>	Mirasol Resources Ltd.	97	<b>TSXV:GSP</b>	Gensource Potash Corporation
48	<b>TSXV:ORG</b>	Orca Gold Inc.	98	<b>TSXV:GQC</b>	GoldQuest Mining Corp.
49	<b>TSXV:GXU</b>	Govix Uranium Inc.	99	<b>TSXV:GRG</b>	Golden Arrow Resources Corporation
50	<b>TSXV:BSR</b>	Bluestone Resources Inc.	100	<b>TSXV:AGLD</b>	Austral Gold Limited

# Market capitalization continues steady rise

Market valuations of junior mining companies continued to climb in 2018. The aggregate market cap of the top 100 listings on the TSX-V rose 6% to CA\$12.9 billion at the end of June, up from CA\$12.2 billion 12 months earlier. The broader industry group, consisting of 987 mining companies, saw its value increase by a collective 5%, to CA\$21.1 billion.

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TSX-V market capitalization, 2011-2018 (CA\$ billion)

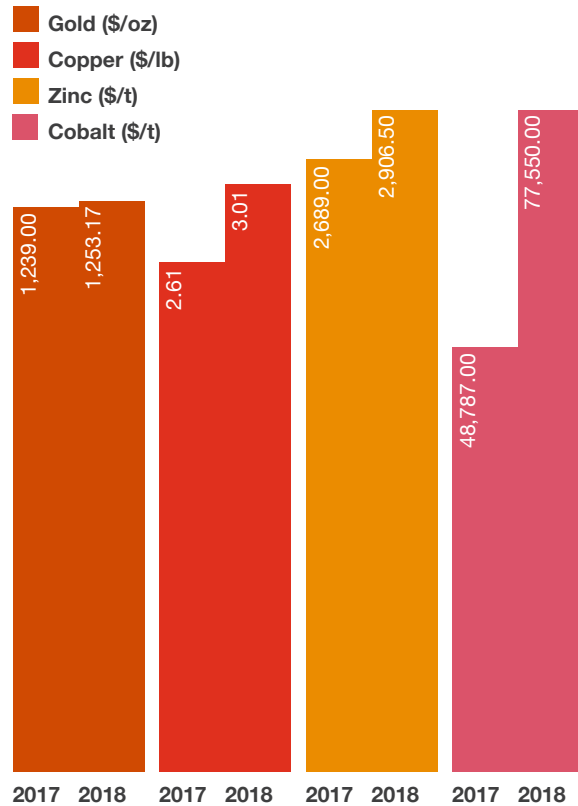


S&P Global Market Intelligence, TMX website and PwC analysis



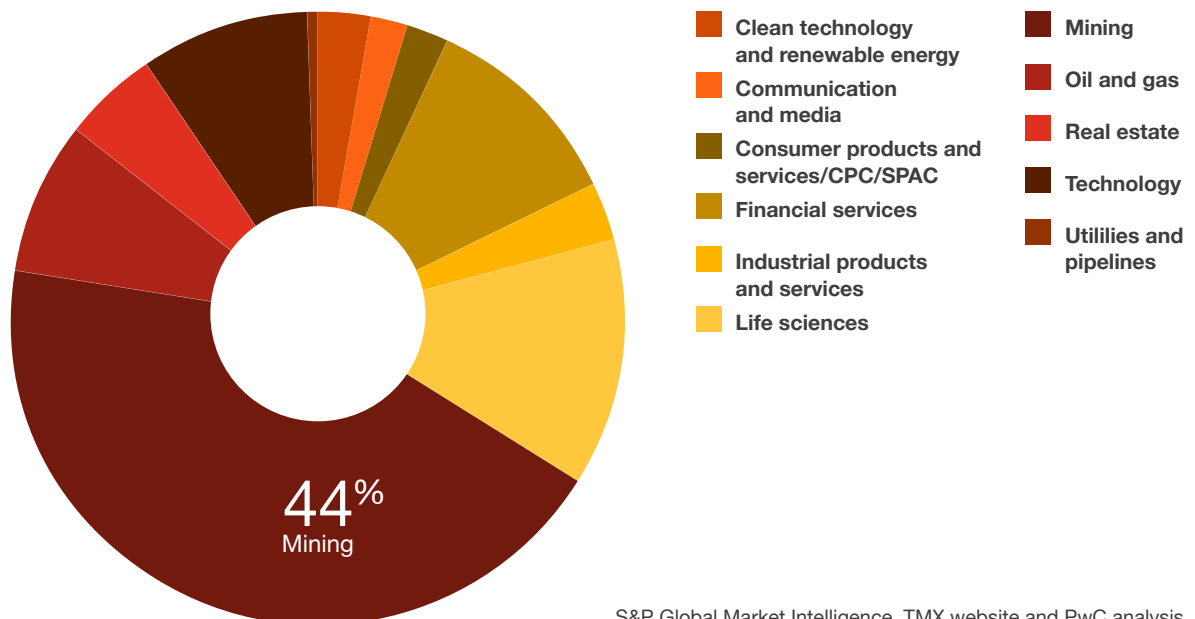
The sector hasn't seen valuations this strong since the heydays of 2011, but the gains failed to keep pace with the valuation growth in other sectors. As a result, mining companies' share of the TSX-V's total value declined to 43.8%, down from 47.4% a year earlier. Nevertheless, mining remains by far the dominant sector on the exchange, with life sciences (13%), finance (11%) and technology (9%) representing the next largest industries by valuation.

**LME spot price trend (US\$)**  
[as of June 30 of each year]



Source: Bloomberg and PwC analysis

**Market capitalization by industry group of the total of TSX-V**  
(as of June 30, 2018)



S&P Global Market Intelligence, TMX website and PwC analysis





# New markets bring new demands

One reason for the modest performance of the top 100 was the flat price of gold, which increased only 1.1% over the year. The precious metal remains the most important commodity on the TSX-V, with 56% of the exchange's valuation coming from mining companies with exposure to it.

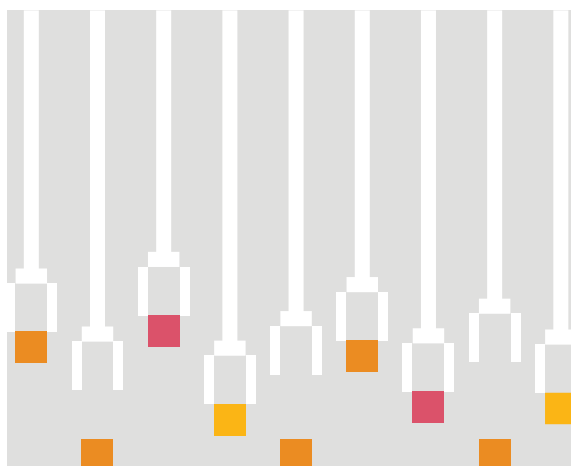
But a new market is emerging for old metals as stronger demand for mobile consumer devices and electric vehicles creates a greater need for power storage. The battery metals nickel, lithium and cobalt have caught the attention of commodity investors looking to capitalize on the technology boom. The number of companies with exposure to lithium, for example, rose to 10, up from nine the previous year and just one in 2015. And Cobalt 27 Capital Corp.—a royalty streaming company that buys and stores cobalt—jumped to the No. 1 spot on the exchange, up from No. 10 a year earlier, displacing gold players in the top rankings.



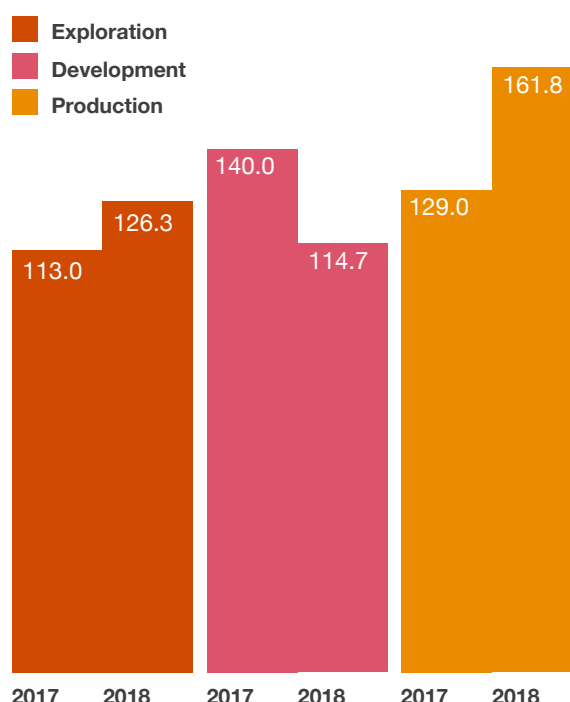
# Setting the stage

Exploration-stage mining companies continued to dominate the top 100 in 2018, accounting for almost two-thirds of the listing. Development and production firms comprised 20% and 15%, respectively, in line with the previous year's breakdown.

It was a different story in terms of valuation changes. Production-stage companies, on average, saw their market cap increase by 20.3% to CA\$161.8 million, and explorers enjoyed an average gain of 10.5%, totalling CA\$126.3 million. But developers took an overall hit of 22.1%, and their aggregate valuation declined to CA\$114.7 million.

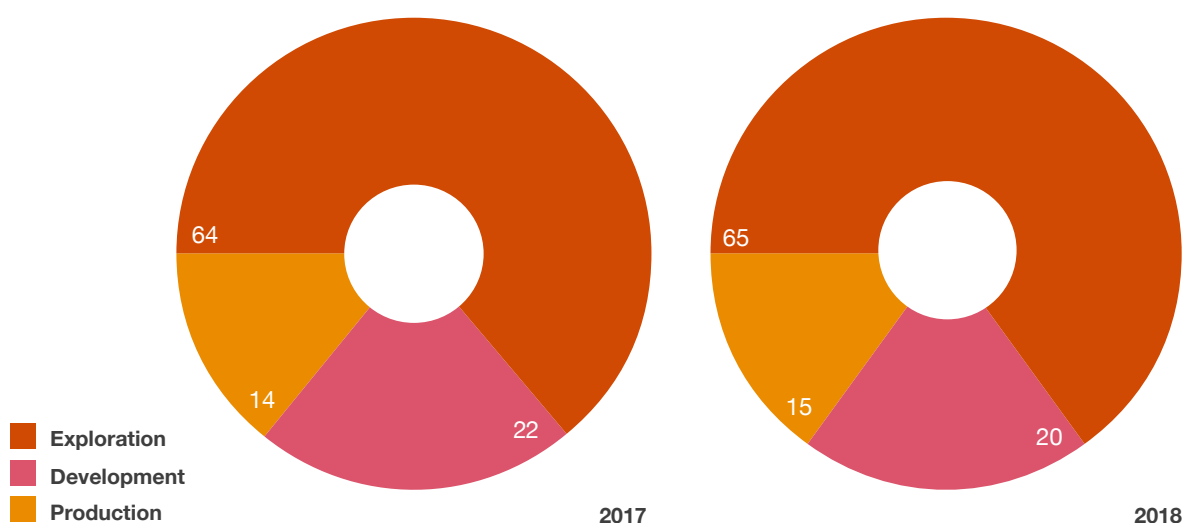


**Average market capitalization by stage of mining, top 100 (CA\$ million)**



Source: S&P Global Market Intelligence, SEDAR and PwC analysis

**Stage of mining of top 100 mining companies**



Source: S&P Global Market Intelligence and PwC analysis



# Rising cash reserves bring opportunity

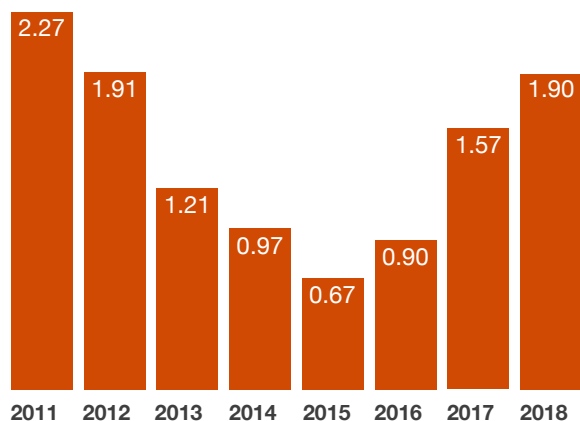
One of the most positive signs in the latest top 100 is the steady rise in companies' cash balances, which rose 21% to CA\$1.9 billion over the 12-month period. Just three years earlier, many players faced liquidity challenges as the industry downturn caused the equity and debt markets to dry up. Today, the sector is on a more secure financial footing, and development and production companies are better positioned to weather uncertainties ahead.

Balance sheets improved even as the sector increased spending. Cash outflows increased gradually by 4%, to CA\$1.2 billion, which suggests that as management teams look for new opportunities, they continue

to impose financial discipline after emerging from the industry downturn in 2016.

As opportunities begin to re-emerge in the sector, investors are more willing to put up capital, but junior miners must compete for attention. The industry raised CA\$2.7 billion in the 12 months leading up to June 30, 2018, which is 6.5% more than the previous year. And almost CA\$2.2 billion came from equity financing. Exploration and development-stage companies consumed the majority of this amount, as production-stage miners came to rely more on debt financing, which increased by 65.9%.

**Total cash, top 100 (CA\$ billion)**



Source: S&P Global Market Intelligence and PwC analysis

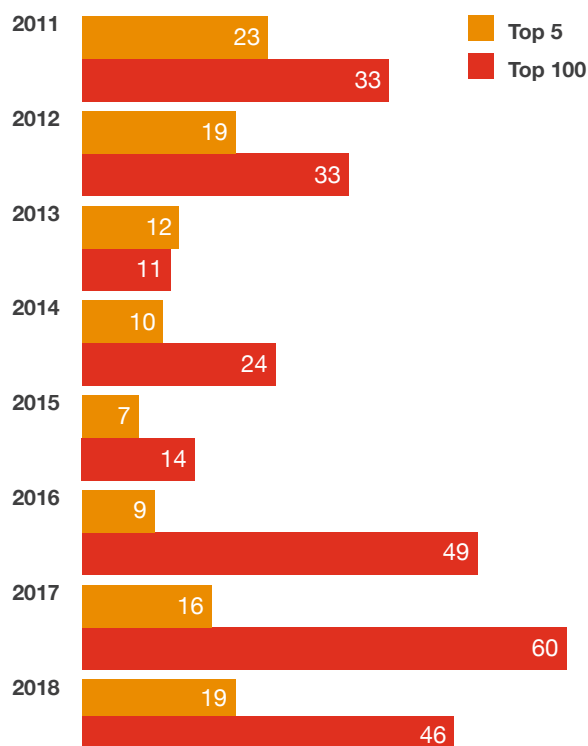


The sector is on a more secure financial footing, and development and production companies are better positioned to weather uncertainties ahead.

Just over half (51) of the top 100 raised more than CA\$10 million, and 10 companies secured more than CA\$50 million each, compared with just seven a year earlier. But the market continues to favour a small group of players that it sees as having the most promising business models.

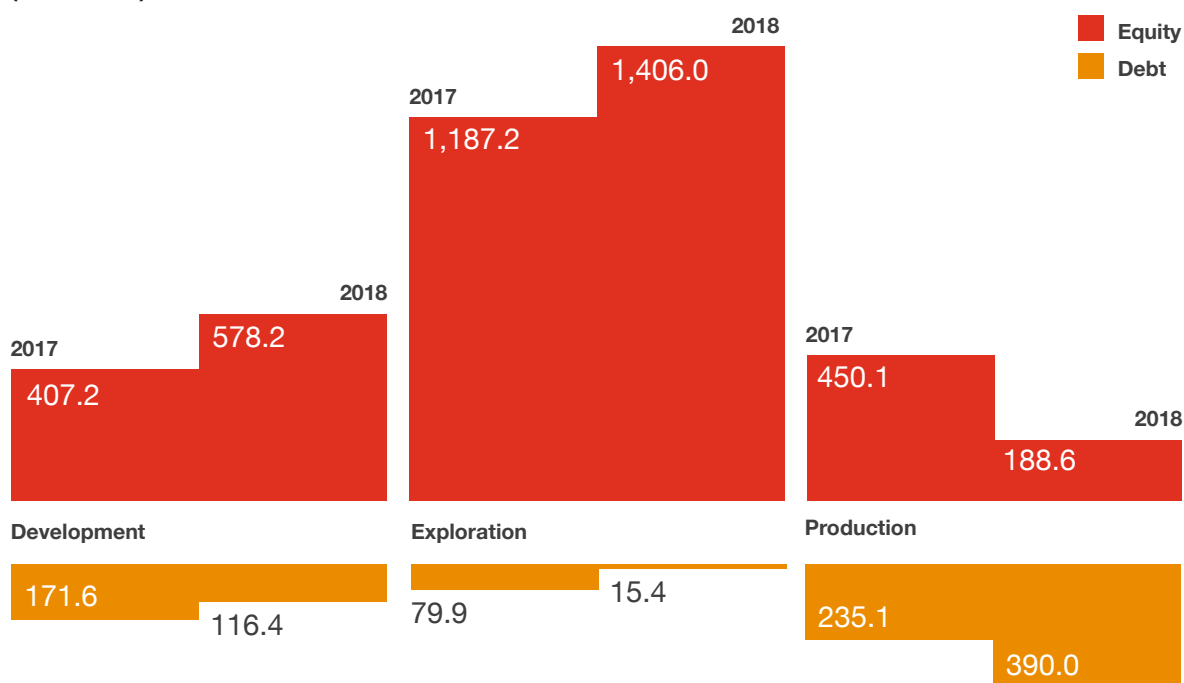
One of these is Cobalt 27 Capital, which does not extract any metals and instead buys and warehouses physical supplies of cobalt. It has also negotiated royalty and streaming agreements with miners that give the company access to the commodity at a predetermined price. This model offers investors diversified exposure to the metal while limiting their exposure to operational risks. For two consecutive years, Cobalt 27 Capital won bragging rights for the largest equity financing, raising CA\$300 million to fund its purchase of 32.6% of the cobalt production from Vale S.A.'s Voisey's Bay Mine in Newfoundland and Labrador.

Total cash, top 5 and top 100 (CA\$ billion)



Source: S&P Global Market Intelligence and PwC analysis

Equity raises vs. debt raises by stage of mining (CA\$ million)



Source: S&P Global Market Intelligence and PwC analysis



# Innovating boldly to create new value

Junior miners are beginning to embrace digital technologies with a level of enthusiasm that did not exist prior to the industry downturn a few years ago. Many are investing in automation, artificial intelligence (AI), 3D modelling and the digitization of historical data. They're looking at these tools as a means to boost efficiencies, control long-term costs, navigate through volatile commodity prices and to differentiate themselves in the competitive marketplace for investor capital.

What's more, Goldcorp President and CEO David Garofalo says it's easier than ever for mining companies to commercialize existing technologies rather than developing something new: "With the availability of fibre optics and super computers like Watson, we have the ability to take these technologies that are available to society generally, adapt them to the mining industry and drive costs down dramatically."

Here is a cross-section of innovation and digital transformation efforts across our top 100 junior miners:

- Novo Resources Corp. (No. 2) is developing a 3D model of a mineral bed at its Comet Well project in the Karratha region of Western Australia.
- Garibaldi Resources Corp. (No. 6) is using remote-sensing technology to explore more than 1,000 square kilometres of land for gold, silver and base metal deposits in the central and northern parts of Mexico's Sierra Madre. The company says it's also using "cutting edge technology and innovative new exploration concepts" in its drilling campaign at Nickel Mountain in northern British Columbia.
- Maya Gold & Silver Inc. (No. 17) has invested in the digitization of historical data from the Boumadine polymetallic deposit, in the Anti-Atlas Mountains of eastern Morocco, to help the company in its mineral resource calculations at the former silver and gold mine.
- First Cobalt Corp. (No. 24) planned its initial drill holes near Kerr Lake, in Eastern Ontario, using a 3D geological model based on a digital compilation of historic mine workings. Similarly, 3D modelling of an airborne magnetic survey helped Cornerstone Capital Resources Inc. (No. 41) define large gold and copper targets at its Bramaderos project in southern Ecuador.
- Falco Resources Ltd. (No. 42) turned to AI programs from Albert Mining Inc. to help it find new gold, copper, zinc and silver targets on its land in the Rouyn-Noranda Mining Camp in Quebec. The AI software analyzed historical data and learned the signatures of positive and negative targets, leading to 11 new exploration areas for Falco. The company also says it's considering remote-controlled transportation equipment to automate operations at a future mine on the site.



# The new leaders

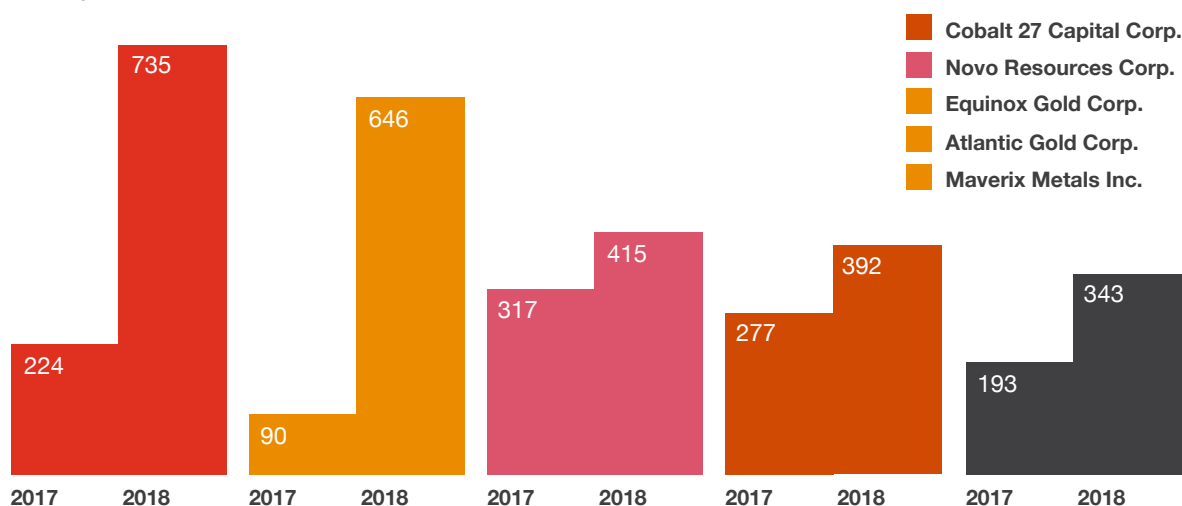
## Battery metals and royalty streams define our analysis of the top 5 junior mining companies

New business models and new markets helped define the junior mining leaders in 2018. In past years, investors have favoured gold companies, but more recently, they have placed a premium on successful royalty and streaming businesses with limited operational risk and on firms that develop, invest in or produce metals used in battery technology.

This year marked the end of gold's dominance among the top five junior mine companies as investors shifted

their focus to lithium and cobalt. The trend is likely to continue as long as the two metals remain a key ingredient in battery technology. Demand for cobalt is forecasted to increase by 30% between 2016 and 2020, driven by the increased popularity of electric vehicles. That figure is expected to keep rising as the cost of electric-vehicle drivetrains becomes competitive with combustion engines within the next five to ten years.

TSX-V market capitalization—top 5 mining companies (CA\$ million)



Source: S&P Global Market Intelligence, TMX website and PwC analysis



# Converting market opportunities into growth

The top five junior mine companies grew in value by an aggregate 32%, to CA\$2.5 billion, up from CA\$1.9 billion a year earlier. Cobalt 27 Capital Corp. jumped nine places to secure top spot, thanks to the rising price of cobalt and a successful CA\$300 million equity financing round. In *Junior Mine 2017*, Cobalt 27 CEO Anthony Milewski outlined why his company offers investors safer exposure to the electric vehicle market than the pure-play nickel and copper companies that produce the metal as a by-product. Over the next 12 months, the market gave credence to his case, raising Cobalt 27's market cap by 228.5%.

Novo Resources vaulted into second spot from No. 52 a year earlier, as its market cap soared 616.6%. The gold company raised CA\$90 million in equity financing to further its exploration efforts in Western Australia.

Equinox Gold, which changed its name from Trek Mining Inc. in December 2017, moved up to third place from 13th a year earlier. Its Aurizona gold mine in Brazil is preparing to go online in early 2019, and its Castle Mountain gold mine in California is preparing to ramp up in 2020. Atlantic Gold was also rewarded by investors for starting commercial production at its Moose River Consolidated gold mine in Nova Scotia.

Maverix Metals' rise to fifth spot from No. 15 a year earlier came as the company secured a US\$50 million revolving

credit facility and used its growing cash flow to expand its royalty portfolio.

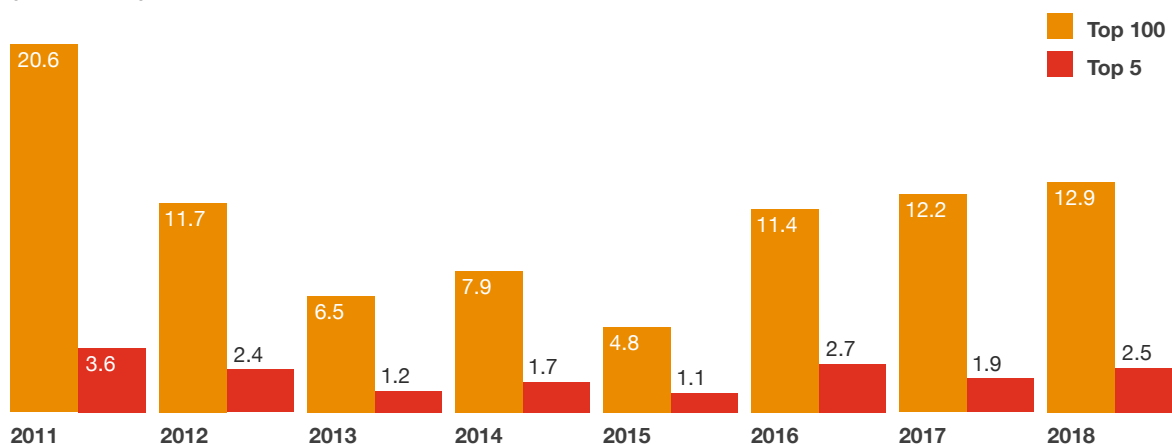
Movement in the top-five ranking included the graduation to the Toronto Stock Exchange of both Gold Standard Ventures Corp. and Leagold Mining Corp. Meanwhile, Integra Gold Corp. (formerly No. 2 among miners on the TSX-V) was acquired for CA\$590 million in July 2017 by Eldorado Gold Corp., which is using the assets to strengthen its portfolio in Quebec.

**Average market capitalization, top 5 (CA\$ million)**



Source: S&P Global Market Intelligence, TMX website and PwC analysis

**TSX-V market capitalization—top 5 and top 100 (CA\$ million)**



Source: S&P Global Market Intelligence TMX website and PwC analysis

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## Data sources

TMX website  
SEDAR  
S&P Global Market Intelligence

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