Revasum Inc.

Deal with biggest fish in SiC

Share Price: A$0.75

ASX: RVS

Sector: Semiconductor Equipment

3 December 2019

Revasum Inc. (ASX:RVS) recently inked a multi-year contract with Cree, the world's largest manufacturer of Silicon Carbide (SiC) wide bandgap semiconductors, used a.o. in Electric Vehicles (EV). Cree recently announced a US$1BN Capex plan for the next few years and we expect RVS to be a major beneficiary with its HMG grinder and the recently launched SiC wafer polishing machine. As demand for SiC substrates accelerates, RVS should be very well positioned to reap the benefits.

Near the end of the cyclical downturn

The company recently lowered its revenue guidance for 2H19 from a range of US$11m to US$13m to a range of US$7.5m to US$10m due to delivery pushouts by customers. We believe, however, that these pushouts only affect the company in the very near-term given that we think the semiconductor cycle has bottomed in mid-2019. We are anticipating a pickup in demand early in 2020. Furthermore, the guidance for SiC systems was largely intact, indicating customers are still in the market for SiC technology buys used in process development.

Valuation range of A$2.30 to A$2.69 per share

RVS' focus on SiC tools has put the company in a great position to benefit from strong growth in SiC wafers, needed in high-growth applications such as EVs and 5G infrastructures. As RVS continues to expand its product portfolio, with the 6EZ polishing machine and a chemical mechanical planerisation (CMP) tool to be introduced in 2020, we believe the growth potential is immense. We value RVS at A$2.30 per share base case and A$2.69 per share bull case. We believe that RVS' strong product pipeline with high average selling prices and a cyclical uptick in demand will lead to significant revenue growth and margin expansion during the next semiconductor upcycle.

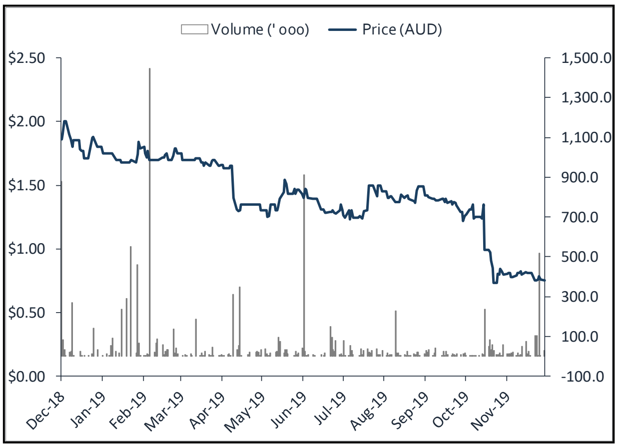
Year to Dec (USD)	2018A	2019F	2020F	2021F
Sales (m)	27.3	24.3	33.6	54.0
yoy growth	117.9%	-10.7%	38.1%	60.7%
EBITDA (m)	0.8	-2.4	0.8	9.5
Net Profit (m)	0.0	-5.4	-1.0	4.9
EBITDA Margin (%)	3.0%	na	2.4%	17.6%
EPS	-0.67	-0.07	-0.01	0.06
2.7x	1.5x	1.0x	0.6x	2.7x
87.5x	nm	43.1x	3.3x	87.5x
nm	nm	nm	8.1x	nm
3.9x	1.9x	1.9x	1.6x	3.9x

Source: Company, Pitt Street Research

Market Cap. (A$ m)	58.3
# shares outstanding (m)	77.8
# share fully diluted	80.3
Market Cap Ful. Dil. (A$ m)	60.2
Free Float	82.3%
12 months high/low	2.00 / 0.73
Avg. 12M daily volume ('1000)	50.2
Website	www.revasum.com

Source: Company, Pitt Street Research

Share price (A$) and avg. daily volume (k, r.h.s.)



Source: Thomson Eikon, Pitt Street Research

Valuation metrics	
Fair valuation range (A$)	2.30 – 2.69
WACC	11.3%
Assumed terminal growth rate	2%

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Analyst: Marc Kennis

Tel: +61 (0)4 3483 8134

marc.kennis@pittstreetresearch.com

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Multi-year collaboration with market leader Cree to lead next cycle of business expansion

RVS signed a multi-year supply agreement with Cree for SiC processing equipment

In October 2019, RVS entered into a multi-year supply agreement with Cree Inc. (Cree), the market leader in SiC wafers (Figure 1). RVS is expected to be supporting Cree in its expansion efforts by supplying a significant quantity of grinding machines used for high-volume manufacturing of 150mm and 200mm SiC wafers. The new CMP machine (chemical mechanical planerization) for Si processing, to be launched in 2020, will be another strategic product in RVS' portfolio.

In our view, RVS has made an exponential leap by landing Cree as a customer. There is a lack of competing products in the market for SiC grinding and polishing, particularly in the ≤200mm wafer size segments, and this bodes well for a long-term association between RVS and Cree. RVS indicated it has preferred supplier status and expects to ship a "significant quantity of grinding machines" to Cree.

RVS, through its newly launched SiC polishing machine, will also be targeting the rising demand for SiC wafers in the automobile sector due to the focus on EVs and the telecom sector due to the anticipated global roll-out of 5G networks. The first purchase orders with Cree are expected to be received soon, with the shipments to be delivered in early 2020.

Addressing a market that grows 29% CAGR

The industry shift towards high-growth SiC wafer market and the new contract with Cree are expected to support RVS in riding the next growth cycle. According to estimates by Yole Development, a market research and strategy consulting company, the SiC power device market is expected to post a 29% CAGR over 2018–2024 (Figure 2) to reach US$1.9bn.

Figure 1: 2018 SiC wafer market share estimation

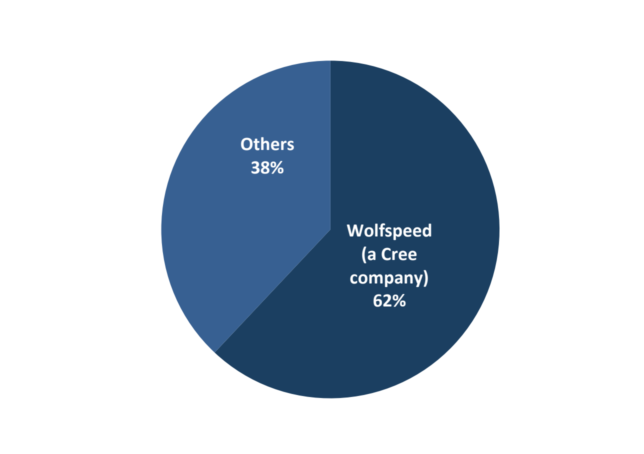
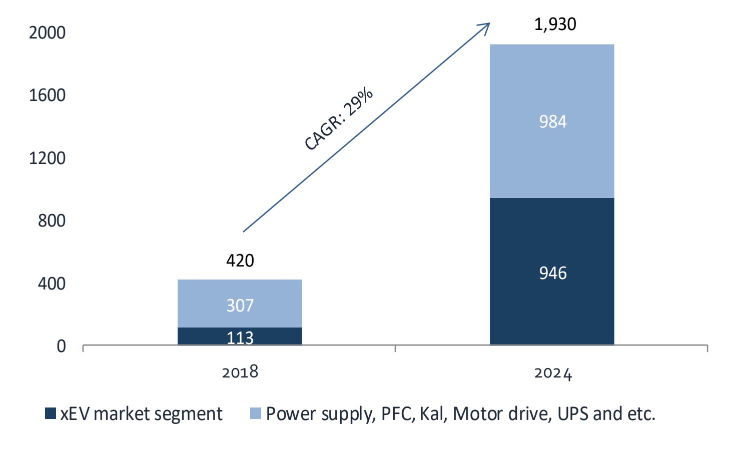


Figure 2: SiC market evolution (in US$m)



Source: Yole Development, Pitt Street Research

Cree – Undisputed market leader in SiC devices

Association with Cree will be a major boost for RVS in an industry shifting towards SiC-based wafers

Cree (NASDAQ: CREE) is a US-listed manufacturer and marketer of LED lightings, power products, products for radio frequency (RF) applications, lighting components and semiconductor chips. It is one of the leaders in semiconductor chips that use SiC and gallium nitride (GaN) technologies. As per estimates by Yole Development, Wolfspeed (a Cree company) has ~62% market share in the SiC-enabled power device market.

A multi-year contract with Cree indicates that RVS will have a strong and reliable customer base that will not only enhance its credibility in the industry but also help in improving its products.

Cree announces 30x production capacity expansion

In September 2019, Cree announced plans to create the world's largest SiC fabrication facility in the US with an initial investment of US$1bn (part of the previously announced 5-year capital expenditure programme). Upon completion by 2022, the new state-of-the-art automotive-qualified 200mm wafer fabrication facility would expand Cree's overall production capacity by 30x.

This expansion is in line with the wider usage of SiC power devices across high-growth end markets and will have a positive impact on the demand for SiC wafer processing equipment, including grinders and polishers, i.e. RVS' area of expertise.

With launch of 6EZ, RVS takes another key step in the fast-growing SiC segment

With ~50% faster and ~95% cleaner output, 6EZ is way ahead of competition

On 2 October 2019, RVS unveiled its first fully automated, single wafer polisher, specifically for SiC wafers (Figure 3). The new machine, 6EZ, is designed to polish and clean both surfaces of 50 SiC wafers sequentially, without any operator intervention. This machine is positioned as highly superior to other products in the market, providing the much-needed edge to RVS.

Importantly, its new 6EZ machine operates 50% faster than competing products and produces ~95% cleaner wafers leading to higher yields, one of the key metrics in semiconductor manufacturing. This new polisher, along with the existing fully automated grinding machine (7AF-HMG), is expected to catapult RVS into processing of SiC wafers, particularly for 150mm and 200mm sizes.

Figure 3: RVS' new single wafer polishing machine for SiC substrates, 6EZ

Source: Company

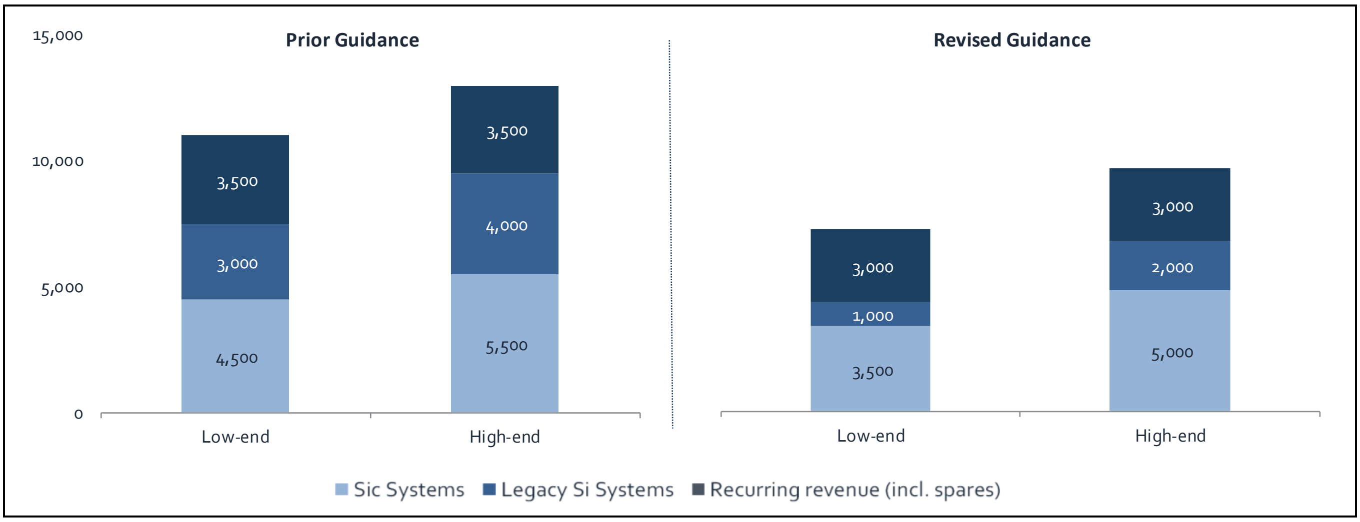
RVS issued a revenue warning but long-term growth potential intact

Revenue from SiC wafer processing systems is projected to grow substantially from US$1.5m in H1 2019 to US$3.5–5.0m in H2 2019

Amid uncertain market conditions and the ongoing US–China trade war, Si wafer customers have been pushing their deliveries out into 2020. SEMI, a global industry association, has also suggested that the entire supply chain of wafers is reducing Si shipments and is forecast to decline 6.3% YoY in 2019, with a potential 1.9% YoY rise in 2020. Throughout 2019, RVS has been witnessing delays in orders, accumulated inventory and softer demand for its legacy systems business. Consequently, it issued a revenue warning for H2 2019.

The new revenue guidance is a ~30% markdown (at the lower end) to US$7.5–10m, compared with the earlier guidance of US$11–13m. Importantly, RVS guides to ship US$3.5–5.0m of SiC wafer processing equipment (~50% of total revenue), in H2 2019, including the new 6EZ polisher (Figure 4).

Figure 4: RVS has lowered its revenue guidance for H2 2019 (US$ in thousands)

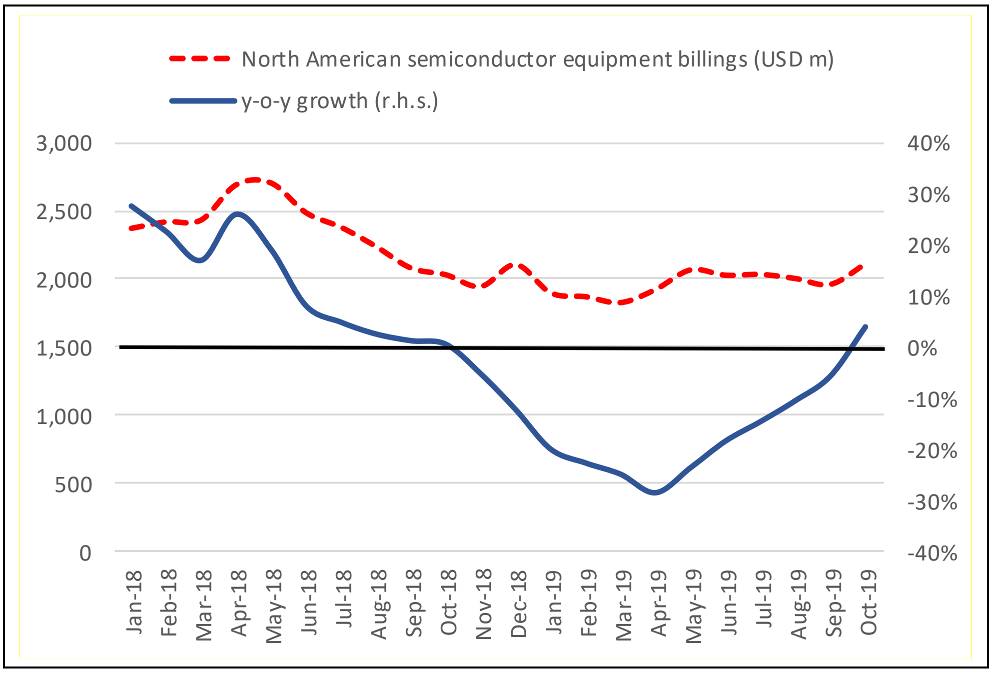


Source: Company

Semiconductor cycle to start next upswing

While RVS' management is more focussed and bullish on the new SiC segment, we believe demand for the legacy Si tools will recover. The semiconductor industry is currently plagued by overcapacity, especially for memory products, and is going through a downcycle. We expect the business to undergo a cyclical turnaround in 2020. We believe the market has already bottomed in April 2019 as illustrated by the recovering year-on-year growth rate of semiconductor equipment sales in North America (see Figure 5), a leading indicator for sector developments. This growth rate crossed over into positive territory again in October.

Figure 5: North American semiconductor equipment billings (USD m)



Source: SEMI, Pitt Street Research

Timely introduction of new machines

As highlighted in the initiation report (dated 3 September 2019 and available here: https://www.pittstreetresearch.com/revasum), new product launches are one of the drivers of future revenues. A strong balance sheet fully supports its strategy to launch multiple new products over the next 3–5 years. RVS launched its first machine (of the proposed lot) within the estimated timeline. We believe this speaks highly of the management's execution capabilities.

Reiterating target range of A$2.30–2.69 per share

We believe the downward revision of H2 2019 revenue forecast is a temporary blip and we continue to believe that RVS' strong product pipeline – coupled with higher mark-up on new products (recently launched 6EZ SiC-based polisher tool) – will lead to significant margin expansion and justifies a strong valuation uplift. Based on an equally weighted valuation – 50/50 to DCF (Figure 6) and P/BV-based relative valuation – we value RVS at A$2.30 per share in base case and A$2.69 per share in a more optimistic scenario (Figure 7).

Figure 6: DCF value in A$ using various WACCs

Sensitivity Analysis									
WACC	**11.30%**								
Terminal Growth Rate	**2.00%**	**Change in WACC**							
Implied Price (AUD)	**2.50**	*10.55%*	*10.80%*	*11.05%*	*11.30%*	*11.55%*	*11.80%*	*12.05%*	*12.30%*
	1.25%	2.61	2.54	2.48	2.41	2.35	2.30	2.24	2.19
	1.50%	2.65	2.58	2.51	2.44	2.38	2.32	2.26	2.21
	1.75%	2.68	2.61	2.54	2.47	2.40	2.34	2.28	2.23
Change in Terminal Growth Rate	*2.00%*	2.72	2.64	2.57	**2.50**	2.43	2.37	2.31	2.25
	2.25%	2.76	2.68	2.60	2.53	2.46	2.40	2.33	2.28
	2.50%	2.80	2.72	2.64	2.56	2.49	2.42	2.36	2.30
	2.75%	2.85	2.76	2.68	2.60	2.52	2.45	2.39	2.33

Source: Pitt Street Research

Figure 7: Weighted average valuation in our base and optimistic case scenario

Methodology (Base Case)	Weight (%)	Share price (AUD)
DCF	50.0%	2.50
Relative valuation	50.0%	2.11
Composite		**2.30**
Current Price		0.75
Upside/ Downside (%)		**207.3%**

Methodology (Optimistic Ca	Weight (%)	Share price (AUD)
DCF	50.0%	2.86
Relative valuation	50.0%	2.52
Composite		**2.69**
Current Price		0.75
Upside/ Downside (%)		**258.7%**

Source: Pitt Street Research

Conclusion: All set to take advantage of high growth in SiC and the expected sector upswing

Despite RVS' recent revenue warning, we believe the company is in very good shape:

- The cyclical upswing in the semiconductor industry is not far off, with industry organisations indicating that late 2019/early 2020 will see the industry resuming growth again.
- RVS has two products in place to take advantage of the SiC bull market that is expected to last well into the next decade, driven by EVs and the 5G roll-out.
- Additionally, the company will be launching a new CMP tool for the 200mm Si substrate market, a segment which is largely neglected by large equipment manufacturers such as Applied Materials, (NASDAQ:AMAT), which focus on the 300mm market.

In other words, we expect to see strong revenue growth and margin expansion in the next several years, as illustrated in the table on page 9.

Risks

In our view, there are four main risks associated with investing in RVS:

1. Order delays in the legacy business: Recently, RVS revised its revenue guidance to reflect order delays in its legacy Si systems business. It will be imperative to watch for further downgrades.
2. Cyclicality: The memory and storage markets, i.e. DRAM and NAND flash, are highly cyclical. However, we believe that RVS' current initiatives to grow in the SiC domain provide it with good buffer against cyclicality in the legacy Si market.
3. Execution risk: With RVS introducing its new SiC polisher and planning to enter the mainstream CMP market with a new product offering, there is a risk associated with the company's ability to manufacture new tools on time, given that substantial portions of these new tools will be outsourced to third parties.
4. US–China trade war: Although RVS is listed in Australia, they remain a US-domiciled company. Its US operations may face restrictions on export of high-technology products and components to China. It may also lead to tariffs on components the company imports from China, even though RVS has some flexibility in component sourcing.

Please refer to www.pittstreetresearch.com for our initiating coverage report on RVS.

Analyst certification

Marc Kennis, lead analyst on this report, has been covering the Semiconductor sector as an analyst since 1997.

- Marc obtained an MSc. in Economics from Tilburg University, The Netherlands, in 1996 and a Post Grad. in investment analysis in 2001.
- Since 1996, he has worked for a variety of brokers and banks in The Netherlands, including ING and Rabobank, where his main focus has been on the Technology sector, including the Semiconductor industry.
- After moving to Sydney in 2014, he worked for several Sydney-based brokers before setting up TMT Analytics Pty Ltd, an issuer-sponsored equities research firm.
- In July 2016, with Stuart Roberts, Marc co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Technology companies.

Profit & Loss ($m)	2017A	2018A	2019F	2020F	2021F	2022F	2023F
Sales Revenue	**12.5**	**27.3**	**24.3**	**33.6**	**54.0**	**70.2**	**85.4**
Operating expenses	-7.2	-9.6	-10.7	-12.2	-13.2	-13.8	-13.5
Adjusted EBITDA	**-3.1**	**0.8**	**-2.4**	**0.8**	**9.5**	**17.8**	**25.7**
Depn & Amort	-0.5	-0.3	-1.9	-0.8	-1.1	-1.4	-1.7
Adjusted EBIT	**-3.6**	**0.5**	**-4.3**	**0.0**	**8.4**	**16.4**	**23.9**
Net Interest	0.0	-0.3	0.1	0.0	0.0	0.0	0.1
Profit before tax (before exceptional)	**-3.8**	**0.0**	**-5.4**	**-1.4**	**6.7**	**14.3**	**22.4**
Tax expense	0.0	0.0	0.0	0.4	-1.9	-3.9	-6.1
Abnormal + Minorities	0.0	-4.3	0.0	0.0	0.0	0.0	0.0
NPAT	**-3.8**	**-4.4**	**-5.4**	**-1.0**	**4.9**	**10.4**	**16.2**

Cash Flow ($m)	2017A	2018A	2019F	2020F	2021F	2022F	2023F
Profit after tax	-3.8	-4.4	-5.4	-1.0	4.9	10.4	16.2
Depreciation	0.5	0.3	1.9	0.8	1.1	1.4	1.7
Change in trade and other receivables	-1.1	-5.7	-1.2	-0.3	-1.1	0.2	-1.1
Change in trade payables	0.8	3.5	-1.0	0.6	0.4	0.8	1.5
Other operating activities	-0.9	-1.7	-0.8	1.7	0.2	1.9	0.6
Operating cash flow	**-4.5**	**-7.9**	**-6.4**	**1.8**	**5.5**	**14.6**	**18.8**
Capex (- asset sales)	-0.2	-1.7	-14.0	-1.5	-1.9	-2.1	-2.6
Other investing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investing cash flow	**-0.2**	**-1.7**	**-14.0**	**-1.5**	**-1.9**	**-2.1**	**-2.6**
Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equity raised (repurchased)	4.8	25.3	0.0	0.0	0.0	0.0	0.0
Debt drawdown (repaid)	1.0	6.5	1.7	0.0	0.0	0.0	0.0
Other financing activities	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
Net change in cash	**1.0**	**22.1**	**-18.7**	**0.3**	**3.7**	**12.5**	**16.3**
Cash at End Period	2.4	24.5	5.8	6.0	9.7	22.2	38.5
Net Debt (Cash)	-1.4	-24.5	-4.1	-4.3	-8.0	-20.5	-36.8

Balance Sheet ($m)	2017A	2018A	2019F	2020F	2021F	2022F	2023F
Cash	2.4	24.5	5.8	6.0	9.7	22.2	38.5
Total Assets	10.2	44.2	40.7	41.7	48.6	61.8	81.2
Total Debt	1.0	0.0	1.7	1.7	1.7	1.7	1.7
Total Liabilities	7.3	9.2	9.9	10.5	10.9	11.7	13.2
Shareholders' Funds	2.9	35.0	30.8	31.1	37.6	50.1	68.0

Ratios	2017A	2018A	2019F	2020F	2021F	2022F	2023F
Net Debt/Equity (%)	nm	nm	nm	nm	nm	nm	nm
Interest Cover (x)	nm	2.0	nm	nm	201.1	3,123.2	nm
Return on Equity (%)	nm	nm	nm	nm	13.0%	20.7%	23.8%

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