Evolva

H118 results

Commercialisation on track

Food & beverages

Evolva's H1 results were in line with expectations and confirm that the current strategy is working to deliver an increased focus on commercialisation. The restructuring is nearing completion and will be fully implemented by the year end; we believe the new CEO Oliver Walker is unlikely to change the strategy in the shorter term. Importantly, EverSweet is now being shipped to customers, in line with expectations for a launch during 2018, and we expect it will start to contribute to revenues during H218. We have rolled forward our DCF to commence in 2019 and have cut our revenue forecasts in line with guidance. Our fair value edges down to CHF0.58 (from CHF0.60).

Year end	Revenue (CHFm)	PBT* (CHFm)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
12/16	9.6	(35.9)	(6.8)	0.0	N/A	N/A
12/17	6.8	(40.9)	(7.0)	0.0	N/A	N/A
12/18e	7.7	(24.5)	(2.7)	0.0	N/A	N/A
12/19e	17.8	(19.1)	(2.1)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

EverSweet, Nootkatone on track

As stated in Evolva's H1 results presentation, Cargill has recently begun shipping EverSweet to its customers and although it is early days, indications are that so far the launch is going well. Nootkatone remains on track for US EPA approval in pest control in H218 and customers are already starting to work on new product formulations using the product.

Management changes

In July, Evolva announced that Simon Waddington – who had assumed the position of CEO in July 2017 – was stepping down with immediate effect. Oliver Walker, who has been CFO since December 2016, has taken over as CEO. He had worked closely with Simon Waddington on steering Evolva from a start-up company towards commercialisation of its existing products, and has indicated the strategy will not change in the shorter term. Hence, there should be limited disruption from the management changes. The longer-term goal is to make Evolva more customer-focused, now that its main products are being commercialised.

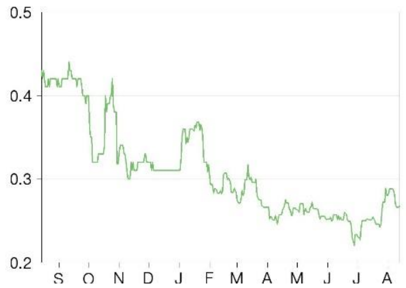
Valuation: Fair value of CHF0.58/share

Our new fair value is CHF0.58/share (previously CHF0.60). We have updated our model to reflect the guidance for revenue growth to continue on the trajectory witnessed during H118, when revenues doubled. We have therefore cut our revenue forecasts. We continue to value Evolva on a DCF basis with a 25-year model, but given we are over halfway through FY18, we have rolled over our DCF to start in FY19. We continue to model break-even in FY21, in line with management guidance.

14 August 2018

Price	**CHF0.27**
Market cap	**CHF207m**
Net cash (CHFm) at 30 June 2018	75
Shares in issue	769.8m
Free float	85%
Code	EVE
Primary exchange	SIX Swiss Ex
Secondary exchange	OTC US

Share price performance



%	1m	3m	12m
Abs	7.2	3.3	(30.4)
Rel (local)	5.5	3.1	(31.3)
52-week high/low		CHF0.4	CHF0.2

Business description

Evolva is a Swiss high-tech fermentation company. It has a proprietary yeast technology platform, which it uses to create and manufacture high-value speciality molecules for nutritional and consumer products.

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FY18 results	28 February 2019

Analysts

Sara Welford +44 (0)20 3077 5700

Paul Hickman +44 (0)20 3681 2501

consumer@edisongroup.com

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Investment summary

Company description: A high-tech fermentation company

Evolva is a Swiss high-tech fermentation company that is using its proprietary platform to create new production methods for existing nutritional and consumer health products. The technology has been validated by the successful launch of some products such as resveratrol and nootkatone, and partnerships with companies such as Cargill and Takasago. Over time, Evolva has transformed itself from an R&D and technology platform with a number of products with potential, to a more traditional ingredients company with a number of commercialised products. Evolva has a partnership agreement with Cargill to produce and commercialise EverSweet, a stevia sweetener obtained by fermentation. This has recently started to be shipped to customers, in line with guidance that launch would occur during 2018. Evolva was founded in 2004 and it employs c 95 people, based at its Basel headquarters and in California. Its main products are summarised in Exhibit 1 (page 3) and it has six active alliances.

Valuation: DCF valuation of CHF0.58/share

We value Evolva on a 25-year DCF basis. Our fair value is CHF0.58, or c 120% potential upside. We assume all product cash flows start to fade beyond 12 years and stop after 25 years. We note the partnership agreement with Cargill for EverSweet will result in a royalty stream accruing to Evolva, while its other three main products are currently commercialised directly by Evolva. We assume a WACC of 12.5% as we deem Evolva higher than average risk versus the consumer goods space. Given Cargill's recent launch of its stevia sweetener, EverSweet, we believe the next major catalyst is likely to be the nootkatone approval in insect control.

Sensitivities

Evolva's prospects are tied to the success of EverSweet and the success of nootkatone in pest control. We estimate that these two products combined make up c 75% of the value of the company. EverSweet's true potential will only become clear over the next 12 months, when the taste range, production costs and competitive landscape are better known. In addition, its ability to replace sugar or high fructose corn syrup (HFCS) in food and beverages will only become clear once the major food and beverage manufacturers have reformulated their products and have launched them on the market, so it is still early days. Nootkatone remains on track for EPA approval later in FY18.

Four of Evolva's products have been launched relatively recently. There is therefore uncertainty about product revenues in the coming years, which will also affect the company's working capital. With all Evolva's products the addressable market is still relatively small and part of the investment case rests on the cheaper and more reliable substitute leading to an expansion in market size. There are uncertainties around this too, which affect visibility on product revenues in future years.

Evolva had net cash of CHF75m at end H118 and we expect net cash of CHF51.5m at end FY18. We forecast the company should reach break-even by FY21 and should have enough cash to support itself until then. However, the risk remains that further financing is required in the longer term.

Financials

We have updated our forecasts to reflect the guidance for revenue growth to continue on the trajectory witnessed during H118, when revenues doubled. We have therefore cut our revenue forecasts. We continue to model break-even in FY21, in line with management guidance.

Company description: A fermentation company

Evolva combines modern genetics with fermentation technology to provide a wide range of natural ingredients. It uses yeast to make the ingredients more reliable and sustainable, and usually with a much higher yield than can be obtained from other processes, hence the Evolva ingredient can also be cheaper than the alternative. Evolva's ingredients are typically used in food, drink, cosmetics and personal care, consumer health, household products, pharmaceuticals and agriculture. For some ingredients Evolva finances all the work itself, but for others it has collaborated with partners. Some products have also been acquired. Moving forward, Evolva has indicated that it wishes to keep an asset-light strategy so it will use contract manufacturers rather than trying to manufacture its own products in-house, once they are scaled up. Evolva's main products are shown in Exhibit 1.

Exhibit 1: Selected product pipeline

Product	Development stage	Product type
Resveratrol	On market/additional aqueous formulation launched recently	Dietary supplement
Nootkatone*	On market	Fragrance/insect repellent
Valencene	On market	Fragrance
Stevia	On market/recently started shipping (July 2018)	High-intensity natural sweetener

Source: Edison Investment Research, Company data. Note: *Not yet on market for insect control.

The product with the largest addressable market is Evolva's stevia sweetener. Stevia is a natural, zero-calorie, high-intensity sweetener. It is traditionally obtained from the stevia plant. The stevia rebaudiana plant produces many different steviol glycosides (stevia derivatives), but only Rebaudioside A (RebA) is currently used as a sweetener as it is the only one with an acceptable taste and a high enough concentration in the leaf. Its main drawback is the lingering bitter, liquorice aftertaste. The stevia plant also yields RebD and RebM, which do not have these taste drawbacks, but are in very low concentration in the stevia leaf, thus making extraction by traditional methods uneconomical. However, Evolva can make both RebD and RebM on a large scale using yeast fermentation.

Evolva has partnered its stevia sweetener, EverSweet, with Cargill, a leading player in the sweetener industry globally. In April 2017 Evolva signed a collaboration agreement with Cargill for the commercialisation and marketing phase of stevia. An existing Cargill manufacturing facility in Blair, Nebraska was converted to produce stevia. Cargill has started commercial production and shipped its first customer orders in H118.

Evolva has products already on the market which have relatively small addressable markets at present, but in each case the market could grow significantly once an affordable and reliable alternative is available, with a consistent supply chain. This is what Evolva is aiming to achieve through its fermentation technology. For example, as we discuss in greater detail below, valencene is a relatively niche fragrance ingredient, mainly due to the difficulty and cost involved in its extraction process. Evolva's valencene has a reliable supply chain that is not exposed to the significant fluctuations in citrus pricing, and is much more affordable.

A portfolio of ingredients

Over time, Evolva has transformed itself from an R&D and technology platform with a number of products with potential, to a more traditional ingredients company with a number of commercialised products. Nootkatone, resveratrol and valencene have already been launched and Cargill recently started to ship stevia. The product focus has shifted from legacy pharma products towards consumer health and nutrition. When Simon Waddington took the helm as CEO, Evolva's overall strategy was refined to wind down milestone-based R&D projects and collaborations in order to focus on the development and sales of its own products. A pipeline of ingredients remains: these are in the development phase, and are available for partnering, so could be a source of value. We expect the strategy to remain broadly unchanged under new CEO, Oliver Walker, although he has indicated that in the longer term he wants the company to become more customer-focussed. We believe this is sensible: the company has successfully transitioned from an R&D/start-up platform to one with several products that have been commercialised. Now that Evolva has a portfolio of products on the market, we believe it makes sense to increasingly focus on providing integrated customer solutions and to work in partnership with customers to deliver improved ingredient solutions, as is the case for many of Evolva's competitors in the ingredients space.

Nootkatone

Nootkatone is a citrus ingredient found in grapefruit that has been shown to act as a highly effective insect repellent. It is primarily traditionally produced by extraction from grapefruit oil or by the oxidation of valencene. We estimate the cost of traditional production is $2,000-3,000/kg and hence this limits its use to high-end fine fragrance. At Evolva's significantly lower-cost production via fermentation, and selling at a lower price relative to traditional product, it could be expanded to high-volume applications in personal care, hair care and laundry products, with a potential market size significantly more than $100m on our estimates. In August 2015, Evolva launched nootkatone into flavour and fragrance applications and is currently selling it to several leading consumer goods and flavour and fragrances companies.

For decades the insect repellent market has been dominated by products containing DEET, which is man-made, oily and has an unpleasant smell. Nootkatone has been shown to be effective against a range of insects including ticks (which cause c 30,000 cases pa of Lyme disease in the US, source: US Centers for Disease Control (CDC)), bed bugs and mosquitoes (carriers of malaria, West Nile and Zika virus). The CDC demonstrated that nootkatone is a highly effective agent against the ticks that transmit Lyme disease. Nootkatone has a pleasant citrus smell, is non-greasy, fast-drying and natural.

Evolva is not the only company to be marketing nootkatone produced in yeast, as Isobionics has also developed yeast strains that make the compound and it signed a distribution agreement with DSM in May 2014. At this stage it is not possible to know whether Evolva or Isobionics has a cost advantage.

Before initiating sales of insect control products containing nootkatone, it is necessary to obtain regulatory approval from the US Environmental Protection Agency (EPA) and similar bodies in other countries. In August 2015, Evolva received approval from the EPA to classify nootkatone as a biochemical pesticide active ingredient. This allows for a potentially expedited process for registration of nootkatone for use against pests. In September 2017, Evolva was awarded a contract by the US government worth $8.35m to Evolva, which is expected to run until March 2019 and could be extended. Its main objective is to advance the development of safe and sustainably sourced products that can provide protection against select mosquito-borne diseases such as Zika. Evolva estimates that it will receive EPA registration for use as an insect and tick repellent in the US.

We estimate that Evolva's nootkatone sales will peak at $150m in FY24. We also apply a 75% probability of success to the product.

Valencene

Valencene is a flavour and fragrance extracted from oranges and used in food and drink, personal care and household products. It is also an intermediate in the production of nootkatone. Traditional methods of production require extraction from orange peel, which exposes valencene to fluctuations in yield and quality of the orange crop. In addition, yields are extremely low (one kilo of valencene requires one million kilos of oranges). Fermentation provides a much cheaper and reliable supply. That said, the market price of valencene is only $500-900/kg. DSM is distributing Isobionics's yeast-produced valencene. Evolva expects the market for its valencene to remain modest. We are cautious on the commercial potential of Evolva's valencene, estimating that it will only achieve peak sales of $10m after seven years in FY21, although we apply 100% probability of success given that traditionally produced valencene already has an established market and Evolva is not expecting substantial market growth.

Resveratrol

Resveratrol is a natural plant ingredient most notably associated with its presence in red wine. It is purported to have many health benefits – mainly age-related – including positive effects on cardiovascular conditions, longevity, bone density and cognitive ability. Evolva's resveratrol is produced by yeast fermentation and is made from natural and sustainable feedstocks, with a stable, traceable and reliable supply chain, which offers a differentiating angle. It has GRAS status in the US and Novel Foods authorisation for use in dietary supplements in the EU. It has also been approved in India, Malaysia and Singapore. The market was estimated to be worth c $50m in FY12 (source: Frost & Sullivan), mainly in nutritional supplements in North America. Evolva believes there is room for growth in nutritional supplements, but also that use will be extended to a number of other areas within nutritional supplements, including bone health, blood glucose control, cognition and cardiovascular health. In addition, it could be used in skin health. This would make the addressable market significantly larger. Resveratrol was launched in late 2014 but with very limited volumes (due to operational reasons) until early 2016. The initial launch was very promising and market feedback was positive. As of mid-2016 the production constraints were resolved and in early 2017, Evolva launched Veri-te, its branded, high-purity and sustainably-produced resveratrol. It has signed several distribution agreements, and the commercial pipeline roughly doubled during 2017, with further agreements expected. The company sees a strong potential for the product, and recently launched an aqueous formulation. We forecast peak sales of $34m in FY21.

Stevia

Stevia sweeteners are natural, zero-calorie, high-intensity sweeteners (HIS), which are typically 200-300x sweeter than sugar. They are traditionally obtained from the stevia plant and are currently the fastest-growing segment in the sweetener market as they offer the twin benefits of being natural and zero-calorie, thus offering consumers an alternative to more traditional (and synthetic) sweeteners such as aspartame or sucralose. The stevia plant contains many different steviol glycosides (the main ones being stevioside and rebaudioside). Rebaudioside A (RebA) is present in relatively high concentrations in the stevia leaf, is currently the most common steviol glycoside used as a sweetener. However, the main drawback is the lingering, bitter liquorice flavour, which intensifies as the concentration of RebA is increased and can only be solved by adding bitter taste-masking agents, or sugar/HFCS. Furthermore, RebA's sweetness has a natural peak that cannot be improved by increasing concentration. The result so far has been that stevia sweeteners are typically blended with sugar or other sweeteners, particularly in beverages, such that the final product has a c40% reduction in calories vs the regular equivalent.

The stevia plant also yields other steviol glycosides such as RebD and RebM, which do not have these taste drawbacks. The problem has been that the concentration of these alternative – and so-called minor – steviol glycosides in the plant was well below 1%, thus making extraction by traditional methods unfeasible from both a cost and practical perspective, though competitors such as PureCircle have recently launched plant-based RebD and RebM products by breeding stevia plant variants that have higher concentrations of these ingredients. However, Evolva can make both RebD and RebM on a large scale using yeast fermentation and it was the first company to identify and characterise the key steps in the enzymatic production of both these products.

The use of stevia has been held back by current production costs of (traditional) extraction, as well as taste issues. The cost of producing RebA from plants is estimated to be greater than that of sugar and HFCS (c $750/tonne on a white sugar-equivalent basis compared to c $430/tonne for sugar in Europe (source: EU Sugar Market Observatory), c $750/tonne in the US (American Sugar

Alliance), and $550/tonne for HFCS (Milling and Baking News)). Moreover, most high-intensity sweeteners cost a fraction of sugar and HFCS to produce: aspartame is one of the cheapest artificial sweeteners available at c $50/tonne on a sugar-equivalent basis, while sucralose costs c $70/tonne on the same basis. The cost of leaf-derived stevia will come down with the breeding of larger plants with higher levels of steviol glycosides (eg GLG Life Tech's Huinong 3 strain) and improvements in the extraction process. However, it is difficult to believe that these changes will allow the price of RebA to be halved, let alone production of other steviol glycosides at prices comparable to those of sugar or HFCS. Cargill has launched EverSweet, its branded stevia sweetener on the US market, at an initial premium to sugar and HFCS, but over time management expects it will be priced at a comparable level to sugar and HFCS.

Cargill has commercial relations with most food manufacturers and beverage companies, is well-placed to become the leading provider of stevia sweeteners, as their production method should overcome the taste and cost issues that have held back their use. Other companies producing stevia sweeteners include, PureCircle, GLG Life Tech and Stevia First, but all rely on the use of stevia plants with complex extraction processes and supply chains. More challenging potential competitors are DSM and Tate & Lyle: DSM is developing a fermentation-based stevia product, with launch currently scheduled in late 2018, and Tate & Lyle recently showcased its Tasteva sweetener which utilises a bio-conversion process to increase Reb-M yields. We expect Evolva/Cargill to have a cost advantage over the plant-based competition, and we believe any first-mover advantage may help to capture market share versus the fermentation-based competition, though the most important attribute will be taste. Evolva continues to believe the global addressable sweetener market in beverages is worth an estimated $4bn, and that it is likely to remain the principal subcategory for stevia consumption. Of course, confectionery, dairy and baked goods are also likely to be areas where sugar can be substituted, although sugar serves more than a sweetening function in confectionery and baked goods, as it also adds bulk, texture and 'mouthfeel' amongst other things, which stevia and many high-intensity sweeteners lack.

The Cargill/Evolva agreement

In 2013 Evolva exclusively partnered its stevia programme with US agri giant Cargill, with the latter being responsible for the manufacture and commercialisation of the resultant stevia sweeteners. In April 2017 it formed a JV with Cargill for the production and commercialisation of its stevia product, EverSweet, and in March 2018 it reached a new agreement with Cargill. Under the terms of the latter, Evolva will receive a royalty stream based on the sales of EverSweet. The royalty will be a mid-single digit percentage of sales. We have assumed 5%. The royalty will start to accrue as soon as EverSweet starts generating revenues, in H218. This will bring a positive contribution to Evolva significantly sooner than under previous agreements as, with a share of JV arrangement, Evolva would have had to bear its share of any start-up losses before seeing a positive contribution. The new agreement also meant Evolva was required to make a much lower financial contribution to the facility in Blair, Nebraska.

Evolva and Cargill have launched their stevia product at a time when demand for sweeteners is accelerating. The demand for natural sweeteners to replace man-made aspartame (the main high-intensity sweetener) and sucralose continues to increase, and consumers are increasingly demanding clean labels. We expect the use of RebD and RebM will result in a greater use of stevia and the potential development of beverages sweetened solely by stevia products.

We forecast that peak sales of $600m, or 15% of the global addressable $4bn market, are achieved in FY24. The food and beverage manufacturers will have to reformulate their products once EverSweet is launched, which is likely to take some time. We note Cargill's CEO is on record (Forbes, 2014) estimating that EverSweet's peak sales could be $500m, and we believe Cargill is being conservative. We assume peak operating margins of 30%. Although margins of 45-50%

should be possible once production is fully optimised, we believe the presence of DSM and Tate & Lyle as direct competitors is likely to permanently erode margins to a lower level.

We note that at a recent food industry trade show, Tate & Lyle introduced its stevia-based sweetener, Tasteva, and DSM introduced Avansya. As discussed above, we believe the most important distinguishing feature will be taste and here only time will tell where consumers' preferences will lie.

Other

In October 2017, as part of its strategic review, Evolva announced it would be winding down milestone-based R&D projects in order to cut costs and focus on the development of its own products. We illustrate the main ones in Exhibit 2.

We note that in addition to the R&D projects illustrated, Evolva also has a pipeline of other ingredients that are in the development phase, such as a component of saffron, fermentation-based santalols (the main compounds in sandalwood), or agarwood distillates. Some of these may be available for partnering and could be a potential source of upside.

Exhibit 2: R&D projects for external partners

Product	Application	Partner	Status
Vanillin	F&F	IFF	No Evolva activity. Possible upside
Agarwood	F&F	UMP	Exploratory
EV-077	Pharma	Serodus	Out-licensed. Encouraging Phase IIa results in diabetic nephropathy reported. Possible upside
EV-035/GC-072	Pharma	Emergent BioSolutions	Out-licensed. Early development phase. Possible upside
Undisclosed	Personal care	L'Oréal	Terminated
Undisclosed	F&F	Takasago	Active
Undisclosed	Agri	Valent	Terminated
Undisclosed	Pharma	Undisclosed	Terminated
Undisclosed	Personal care	Ajinomoto	No Evolva activity. Possible upside
Undisclosed	Food	Roquette	No Evolva activity

Source: Evolva

Technology platform and production

All of Evolva's programmes have been developed using biosynthesis, which is the use of nature to develop new compounds, or new production routes for existing compounds. The compounds are produced by assembling genes from different organisms in yeast artificial chromosomes (YACs) so that the yeast strain makes the specific product in question. Evolva's core technology involves combining hundreds of genes from different organisms to form millions of unique YACs. Detection systems are then used to identify those cells that are producing the chemical or compound of interest. Those cells are then optimised to improve the production yields.

The advantage of biosynthesis is that it provides a more stable supply chain, yet the specific products satisfy consumer demand for more natural products with cleaner labels.

In summary, Evolva's technology involves combining genes from different organisms in yeast to produce the compounds of interest in a natural and cost-effective process. The products are not considered genetically modified organisms (GMOs) because the end-compounds are pumped by the yeast cells into the media and do not include DNA.

Once the yeasts producing the target product have been generated, programmes move into the scale-up phase: the fermentation process is scaled up to bench production (<10 litre fermentation content), to pilot scale (<10,000l fermentation content) and eventually commercial production (>10,000l). The scaling-up phase can take up to two years to complete, depending on the challenges that are encountered (eg optimising yields, stability, reducing frothing), but there is limited risk associated with this stage.

Given Evolva's strategic decision in October 2017 to concentrate on the development of its own products, the focus has moved to sales and commercialisation of the products discussed in the section above, rather than on discovering new products and scaling them up.

Sensitivities

Evolva's prospects are partly tied to the success of its stevia sweetener EverSweet, although it is not fully dependent on it. EverSweet's true potential will only become clear after launch, when the taste range and production costs are better known. In addition, its ability to replace sugar or HFCS in food and beverages will only become clear once the major food and beverage manufacturers have reformulated their products and launched them on the market. There is also a competitive threat. Other companies producing stevia sweeteners include PureCircle, GLG Life Tech and Stevia First, but all rely on the use of stevia plants with complex extraction processes and supply chains. More challenging potential competitors are DSM and Tate & Lyle: DSM is developing a fermentation-based stevia product, Avansya, while Tate & Lyle recently showcased its Tasteva sweetener which utilises a bio-conversion process to increase Reb-M yields. We expect Evolva/Cargill to have a cost advantage over the plant-based competition, and we believe any first-mover advantage may help to capture market share versus the fermentation-based competition, though the most important attribute will be taste.

All four of Evolva's main products have now been launched (see Exhibit 1), but their markets are still underdeveloped. There is therefore uncertainty about product revenues in the coming years, which will also affect the company's working capital. The potential of Evolva's products depends on the competitive characteristics (including price) of its new production processes. Thereafter it also depends on improving manufacturing efficiency and introducing line extensions, as well as competition from other biosynthesis companies.

With all Evolva's products, the addressable market is still relatively small or emerging, so part of the investment case rests on the cheaper and more reliable substitute leading to an expansion in market size. There are uncertainties around this too, which affect product revenues in future years.

There is limited market information for most of Evolva's products, thus it is difficult to estimate the rate at which the product sales will grow, or their potential peak sales. This not only causes challenges for us in valuing Evolva, but also operational and working capital issues for the company as it needs to commission the various products.

Evolva had net cash of CHF75m at June 2018 and we forecast a net cash position of CHF51.5m at end FY18. We still assume break-even occurs in FY21, in line with management guidance. Our model forecasts profitability to occur before the cash is exhausted, hence we do not currently expect Evolva to require additional equity. We note that even if there were to be a small cash shortfall by FY20, with the product revenues ramping up by that stage, we believe Evolva ought to be able to raise debt to cover its financing needs, but we acknowledge that this would represent a risk.

The company has undergone several management changes over the past two years, most notably two changes of CEO over the course of 12 months. Simon Waddington, then COO, took over from founder and CEO Neil Goldsmith in July 2017. He steered the company from the start-up phase – where the focus was on discovering new products – to the commercialisation phase, where the focus shifted to launching its existing products. Together with then CFO Oliver Walker, he also successfully secured funding in order to cover the company's financing needs until it reaches break-even. Simon Waddington was California-based, and stepped down in July 2018 in favour of Oliver Walker, who is based at Evolva's Swiss headquarters. Oliver Walker worked closely with

Simon Waddington and has indicated that the strategy is unchanged. We note he was instrumental in successfully managing Evolva's above-mentioned and largest financing round in October 2017.

Valuation

We detail our valuation in Exhibit 3. Our fair value edges down slightly to CHF0.58/share (from CHF0.60/share previously). We have cut our FY18 sales forecasts in light of the guidance that product revenues will at double in FY18 (vs previous guidance of "at least" doubling). Our product revenue forecast for FY18 falls from CHF4.9m to CHF3.9m (this compares to CHF2.0m reported for FY17). Our FY19 product revenue forecast falls from CHF19.4m to CHF14.7m (excluding revenue from R&D partnerships and grants). Assuming successful commercialisation, we expect a significant ramp-up in sales of EverSweet (stevia) and nootkatone. Note that we still assume break-even occurs in FY21, in line with management guidance.

Exhibit 3: Summary of DCF valuation (2019 to 2044)

Product	Value CHFm)	Value/share (CHF)	Notes
Stevia (royalty stream)	124.5	0.16	Launch date: 2018; peak sales: $600m; royalty stream: 5%
Resveratrol	13.2	0.02	Launched; peak sales: $140m; likelihood of success 80%; margin: 30%
Nootkatone	223.6	0.29	Launched; peak sales: $150m; likelihood of success 75%*; margin: 40%
Valencene	21.1	0.03	Launched; peak sales: $10m; likelihood of success 90%; margin: 40%
R&D partnerships	23.4	0.03	Assume revenue falls to FY20 and then stabilises
Capex	-13.7	-0.02	Includes investment of $18m for commercialisation of stevia with Cargill
Net cash (end FY18e)	51.5	0.07	Estimated net cash at end FY18
Total	**443.7**	**0.58**	**Using FY19 average number of shares throughout**

Source: Edison Investment Research. Note: WACC = 12.5%. *There is no developmental risk associated with nootkatone, but we have applied a risk adjustment due to uncertainty about the use of the product as an insect repellent.

We use a 25-year DCF valuation with a fade. Each product has varying peak sales, margins, ramp-up assumptions and probabilities of success, as detailed above. In each case, we reduce the R&D and operating expenditure after launch to reflect the lower level of investment required once the product is established on the market. We have rolled over our DCF valuation to start in 2019. We start to fade stevia in 2031 (year 12) and the other products in 2035 (year 16), and we also assume they become commoditised and their operating margins fall to the single digits, which is the level of commoditised food ingredients. Stevia remains a key product, at c 25% of our valuation, after adjusting for tax and capex, but note that we see greater value overall in nootkatone.

Our valuation purely reflects the products on which Evolva has chosen to concentrate, and we ascribe zero value to all other alliances/collaborations and other projects. We recognise that the latter do retain some residual value, but for the sake of conservatism we err on the side of caution. Management has stated that if commercial partners were to express an interest in these existing projects (for example saffron or santalol), it would consider them. We do ascribe a value to R&D grants and partnerships, which provide an ongoing revenue stream. We forecast a reduction in revenue, in line with management's indications that R&D expenditure will fall. We expect R&D revenue to decline through to FY20, and subsequently stabilise.

Financials

We have updated our forecasts to incorporate the H1 18 results. We note that product revenues of CHF1.8m were ahead of our forecast of CHF1.5m, and total revenues of CHF3.8m were also above our forecast of CHF3.4m. Product sales have doubled vs H1 17, which validates management's claim that the increased focus on commercialisation is bearing fruit.

Given the guidance that product sales growth is likely to remain on the same trajectory for FY18, we have cut our FY18 product sales estimates to reflect this, as discussed above. Our product revenue forecast for FY18 falls from CHF4.9m to CHF3.9m. Our FY19 product revenue forecast falls from CHF19.4m to CHF14.7m. We continue to expect break-even to occur in FY21, in line with management guidance.

We note net cash was CHF75.0m at end June 2018 and we expect a net cash position of CHF51.5m at year-end.

Exhibit 4: Financial summary

CHF'000s	2015	2016	2017	2018e	2019e	2020e
Year end 31 December	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue	13,364	9,576	6,845	7,718	17,789	46,889
Cost of Sales	0	(2,951)	(4,698)	(2,390)	(7,034)	(22,183)
Gross Profit	13,364	6,624	2,147	5,328	10,755	24,706
EBITDA	(30,305)	(33,965)	(37,601)	(24,111)	(18,634)	(4,714)
Operating Profit (before GW and except.)	(31,947)	(36,078)	(39,776)	(36,181)	(29,475)	(24,840)
Intangible Amortisation	(3,779)	(5,090)	(5,126)	(5,126)	(5,126)	(5,126)
Exceptionals	0	0	0	0	0	0
Operating Profit	(35,726)	(41,169)	(44,901)	(29,966)	(24,471)	(10,540)
Net Interest	(129)	497	(596)	389	258	197
Other financial income	0	(338)	(482)	0	0	0
Profit Before Tax (norm)	(32,076)	(35,919)	(40,854)	(24,452)	(19,088)	(5,218)
Profit Before Tax (FRS 3)	(35,855)	(41,009)	(45,979)	(29,577)	(24,213)	(10,344)
Tax	4,067	5,160	7,023	3,549	2,906	1,241
Profit After Tax (norm)	(28,113)	(30,880)	(33,853)	(20,902)	(16,182)	(3,977)
Profit After Tax (FRS 3)	(31,788)	(35,850)	(38,956)	(26,028)	(21,308)	(9,102)
Average Number of Shares Outstanding (m)	401.3	452.8	482.1	770.6	770.6	770.6
EPS - normalised (c)	(7.0)	(6.8)	(7.0)	(2.7)	(2.1)	(0.5)
EPS - FRS 3 (c)	(7.9)	(7.9)	(8.1)	(3.4)	(2.8)	(1.2)
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	N/A	N/A	N/A	N/A	N/A
EBITDA Margin (%)	N/A	N/A	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A	N/A	N/A
BALANCE SHEET						
Fixed Assets	143,457	141,356	132,125	154,328	152,214	145,802
Intangible Assets	131,940	130,256	124,487	119,361	114,236	109,110
Tangible Assets	8,431	7,522	5,208	5,085	5,003	4,958
Other fixed assets	3,086	3,578	2,430	29,881	32,976	31,734
Current Assets	88,780	56,880	107,697	61,548	45,583	46,126
Stocks	2,217	5,687	8,009	3,929	5,396	10,332
Debtors	2,785	2,139	1,831	1,903	2,924	7,708
Cash	83,228	47,517	97,185	51,494	30,134	19,717
Other current assets	550	1,537	673	4,222	7,128	8,369
Current Liabilities	(7,385)	(5,690)	(12,261)	(11,062)	(11,009)	(10,961)
Creditors	(1,182)	(1,174)	(1,933)	(753)	(716)	(680)
Short term borrowings	0	0	0	0	0	0
Finance lease obligations	(969)	(978)	(781)	(781)	(781)	(781)
Other current liabilities	(5,234)	(3,537)	(9,546)	(9,527)	(9,512)	(9,500)
Long Term Liabilities	(21,437)	(19,489)	(6,840)	(6,840)	(6,840)	(6,840)
Long term borrowings	0	0	0	0	0	0
Finance lease obligations	(4,134)	(3,564)	(2,400)	(2,400)	(2,400)	(2,400)
Other long term liabilities	(17,303)	(15,925)	(4,440)	(4,440)	(4,440)	(4,440)
Net Assets	203,416	173,057	220,721	197,975	179,949	174,128
CASH FLOW						
Operating Cash Flow	(31,353)	(33,551)	(35,196)	(32,472)	(14,988)	(9,958)
Net Interest	(376)	(301)	(379)	389	258	197
Tax	0	0	0	0	0	0
Capex	(1,865)	(947)	(582)	(606)	(630)	(655)
Acquisitions/disposals	3,278	(210)	0	0	0	0
Financing	59,956	0	86,457	0	0	0
Dividends	0	0	0	0	0	0
Other cash flow	(3,975)	(677)	(658)	(13,000)	(6,000)	0
Net Cash Flow	25,666	(35,686)	49,642	(45,689)	(21,360)	(10,417)
Opening net debt/(cash)	(57,191)	(83,228)	(47,516)	(97,183)	(51,494)	(30,134)
HP finance leases initiated	0	0	0	0	0	0
Other	371	(26)	24	1	0	0
Closing net debt/(cash)	(83,228)	(47,516)	(97,183)	(51,494)	(30,134)	(19,717)

Source: Evolva accounts, Edison Investment Research

EDISON

Contact details	Revenue by geography
Duggingerstrasse 23 CH-4153 Reinach Switzerland +41 61 4852000 www.evolva.com	N/A

Management team	
CEO: Oliver Walker	**COO: Scott Fabro**
CFO since December 2016. He was previously CFO of several life sciences companies including Sivantos, Nobel Biocare, Sonova and Stratec. He has wide-ranging experience in international companies, both listed and privately held.	Chief Commercial Officer since June 2017, COO since July 2018. Scott has broad experience in marketing in the food industry including at ACH Foods, Kerry, Cargill and Sweet Harvest Foods. He has 27 years of experience in the area of value-added ingredients. While at Cargill, among other responsibilities, he led the commercial strategy for EverSweet.

Principal shareholders	(%)
Pictet Asset Management	9.64%
Cologny Advisors	5.27%

Companies named in this report
Ajinomoto (JP:2802), Cargill, DSM (NA:DSM), Emergent BioSolutions (NYSE:EBS), International Flavors & Fragrances (NYSE: IFF), L'Oréal (FP:OR), PureCircle (LON: PURE), Roquette, Stevia First (OTC:STVF), Takasago(JP:4914), Tate & Lyle (LON:TATE), Valent Biosciences (owned by Sumitomo Chemical Corp).