

Expert System

Five-year growth strategy unveiled

Expert System has unveiled an ambitious five-year plan to become the market leader in natural language artificial intelligence (AI) and to achieve annual revenues of €100m by FY24 (CAGR 24%). Investment in R&D and sales & marketing to develop and drive awareness of the SaaS platform is expected to be funded through a capital raise of c €25m in the next few months. Successful execution of the plan could see the stock valued at €5.4 per share, although it is likely to take some time to reach proof points which show that investment is driving a revenue inflection.

Year end	Revenue (€m)	EBITDA* (€m)	EPS* (c)	DPS (€)	P/E (x)	EV/EBITDA (x)
12/18	30.5	4.6	(1.4)	0.0	N/A	27.4
12/19	33.7	5.5	(1.6)	0.0	N/A	23.3
12/20e	33.2	2.0	(11.5)	0.0	N/A	63.2
12/21e	34.4	(5.0)	(28.4)	0.0	N/A	N/A
12/22e	47.7	(0.5)	(21.5)	0.0	N/A	N/A

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

Bringing AI to the masses

Corporates have a growing awareness of the benefits of AI adoption within their businesses, including using natural language processing/understanding (NLP/NLU) to make sense of unstructured data. However, the complexity of the technology often presents a barrier to adoption and can lead to the failure of AI projects. Expert System is adapting its software to provide an end-to-end SaaS platform that will enable users to design, build and operate NLP/NLU solutions across the enterprise. Based on its proprietary Cogito technology, it will also integrate open source tools and partner with other related technologies.

Ambitious five-year plan: €100m revenues by FY24

The company has set out its plan to grow annual revenues to €100m and EBITDA to €22m by FY24. Starting with a simplified freemium offering next month, Expert System is aiming to attract users to its technology from a broader spectrum than its current enterprise customer base. The planned launch of the fully integrated SaaS platform in March 2021 will be a key building block in the growth strategy. To reflect the plan, we have revised our forecasts for FY20–21 and introduce FY22 forecasts.

Valuation: Considerable upside if executed well

With the full SaaS platform not scheduled to launch until the end of Q121, the plan calls for significant investment before adoption of the SaaS platform is expected to drive material revenue growth in FY22. Based on a DCF valuation, we estimate that successful execution of the plan could see the stock valued in the region of €5.4. To monitor progress towards the revenue inflection, we look to track the number of users signing up to use the platform, length and frequency of platform usage, conversion rates to paid subscriptions, net dollar retention and contribution from channel partners.

New growth plan

Software & comp services

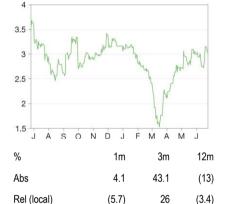
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Frice	€3.02
Market cap	€124m
Net debt (€m) at end FY19	2.8

Shares in issue 41.1m
Free float 73%
Code EXSY

Primary exchange AIM Italia
Secondary exchange N/A

Share price performance



Business description

52-week high/low

Expert System has developed and patented an Albased technology platform that extracts useful information from unstructured text using a unique mix of natural language understanding and machine learning algorithms and applies it to verticals such as enterprise search, customer experience management and big data analytics.

€3.68

€1.53

Next events

Shareholder meeting 26 June 2020 Five year plan webinar 3 July 2020

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Edison profile page

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Unveiling the five-year plan

Expert System recently published its new five-year plan, covering the period FY20–24. The company laid out its new strategy, which puts its natural language understanding and processing capabilities at the heart of a new platform designed to encourage more widespread adoption of natural language-based technology within the enterprise.

The company is hosting a webinar on 3 July to provide more information on the plan.

The headline targets

The company has outlined an ambitious plan, targeting revenue of €100m by FY24 with an EBITDA margin of 22%. It has presented detailed forecasts on the progression to this target, based on the expected return from an increased level of spend on R&D (to develop the full end-to-end SaaS platform) and sales & marketing (to increase awareness and accelerate adoption).

€m	FY20	FY21	FY22	FY23	FY24
Revenue	33	34	48	68	100
EBITDA	2.0	(5.0)	(0.4)	9.0	22.0
Recurring revenue/total revenue					79%
Professional services/total revenue	36%				13%
Revenue growth		3%	41%	42%	47%
EBITDA margin	6.1%	-14.7%	-0.8%	13.2%	22.0%
Revenue via partners					40%

Over the forecast period, the company expects to spend c €51m on R&D (which we assume is capitalised and amortised) and €117m on sales & marketing.

Increasing the addressable market

To date, Expert System has tended to sell its software to enterprise customers, typically early adopters and innovators. Projects are relatively large and have entailed high levels of customisation, resulting in a high contribution to revenues from professional services (36% in FY19). As these are significantly lower margin than software licenses (at best 30% gross margin compared to anywhere from 80% to 100% for software), this has held back the company's profitability and brought with it the utilisation issues typically seen in professional services businesses.

Selling software to enterprises that requires this much implementation work naturally reduces the addressable market and leads to long sales cycles. As the application of natural language understanding and processing technology to improve the efficiency of business processes becomes more mainstream, the company wants to expand the use of its technology to smaller businesses.

To make it easier for smaller companies with less access to resources to adopt its technology, Expert System is adapting its technology to create a platform that can be accessed by anyone, without needing to be an expert in machine learning or linguistics. The chart below shows the market segmentation approach it is taking, with a freemium model due to be launched imminently.

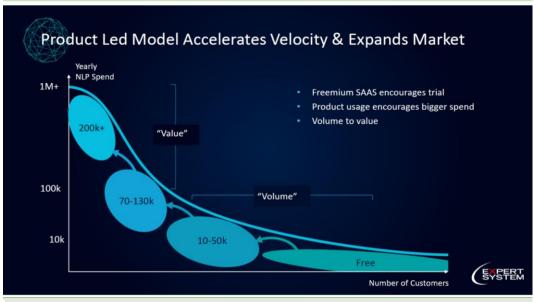
Providing a freemium model gives potential customers a chance to trial the technology without having to go through a lengthy procurement and implementation process. Some users may stay permanently on the free version of the software, which will provide limited functionality. Others will want to unlock premium functionality by upgrading to a paid version. Expert System sees channel partners as being crucial to the adoption of the platform by users in the mid-two groupings (c 10%)



of FY19 revenues were generated via the channel). The company will reserve its professional services capability for enterprise customers at the large end of the scale; for these larger customers it will also focus on core verticals (Insurance, Financial Services, Info/Publishing/Media) to provide industry-specific solutions.

The company is also willing to license its NLU/NLP layer to OEMs.

Exhibit 2: Product strategy



Source: Expert System

End-to-end platform: Creating the natural language leader

As part of its growth strategy, Expert System has decided that its already market-leading technology can be enhanced by putting it at the heart of a platform that also makes use of other related technologies.

In the AI market, there are a number of companies specialising in providing AI tools and methodologies, such as DataRobot and H20.ai; however, these are generic and do not specialise in natural language understanding and processing. There are many open source libraries focused on the NLU/NLP space, for example, spaCy and NLTK (based on Python – a popular programming language for machine learning) and Stanford NLP and OpenNLP (based on Java). In addition, the large cloud providers support natural language processing via APIs¹ (Google Cloud Natural Language, Amazon Comprehend and Microsoft LUIS) and IBM offers its Watson AI platform.

Expert System believes it has the opportunity to provide a platform specialised in NLU/NLP that combines its Cogito technology (which has detailed knowledge graphs for 12 languages) with machine learning tools (proprietary or third party) and open source libraries to provide a comprehensive service that allows users to work with their preferred tools.

For some time now, the company has been shifting to providing its software on a subscription basis. This can be provided on-premise or in the cloud. Under the new strategy, all new licences will be sold on a subscription basis. There will still be a percentage of revenues generated from maintenance contracts on previously signed perpetual licences. Where possible, the company hopes to convert these customers to subscription licensing.

¹ Application programming interface



Timetable for key milestones

Expert System has outlined when it expects to hit key milestones in its new strategy.



- Flat revenue COVID impact
- July: cloud API release
- October: major product release
- · R&D team ramp
- March 2021: full SaaS platform release
- US growth >100%
- Major marketing investment & community development
- c €23m cash consumption
- Free cash flow generation c €8m
- US revenue > €56m

Source: Expert System

FY20: The company does not expect to see revenue growth this year, as new business is being held back by COVID-19 restrictions. The company has already started adding headcount to its R&D team, which is based in Italy, and setting up the senior sales & marketing team in the US, based in Boston.

The release of the cloud API in July will be the first step in the product strategy, enabling the launch of the freemium version of the platform. The larger product release will be in October.

FY21–22: Next March, the company expects to launch the full SaaS platform. This will have integrations to other machine learning and AI tools, including open source. To build awareness of the platform, the company intends to develop a community of users, and will also work with the community to seek feedback on enhancements to the platform.

The company is targeting revenue growth in the US of more than 100% per annum – in FY19, €4m/12% of revenues were generated in the US, so this would imply revenues growing to more than €16m by FY22 (assuming limited or no growth in FY20). Over the period FY20–22, management forecasts that the business will require additional cash of €23m. The company is planning a capital raise of c €25m in the coming months.

FY23–24: If the plan succeeds, the company expects the platform to be the market leader in Albased natural language problem solving by FY24. In FY23, the company expects to reach EBITDA profitability, and over FY23/24, generate free cash flow of €8m. By FY24, it expects US revenues to make up more than half of the total and for 40% of revenues to be generated through channel partners.

The 'Rule of 40' refers to a rule of thumb used when assessing SaaS companies. This says that if the total of revenue growth and profitability exceeds 40% in a given year, the company is performing well. The phrase was coined by VCs investing in SaaS start-ups to assess the balance between growth and profitability. In the early phases, growth could be well over 40% but the company could be loss-making, as funds are invested in growing the customer base as fast as possible. As revenue growth moderates, investment in sales & marketing and R&D can be slowed allowing for higher profitability (say 20% revenue growth and 20% margins), still satisfying the rule of 40.



Changes to estimates

We have revised our forecasts to take account of the new plan. This results in a reduction in our revenue and EBITDA forecasts for FY20 and FY21, as the company builds the foundations for its new product-led strategy. We introduce forecasts for FY22. The model factors in the cost base (predepreciation and amortisation) increasing by 10% in FY20, 25% in FY21 and 23% in FY22 as the company builds up its R&D team and sales & marketing function. We have modelled an increase in debt to fund the cash shortfall over the period, although we expect funds to be raised via a capital increase at some point later this year.

Since the plan was published, the company has announced that it has sold its 17% stake in Cy4Gate, as the company has just listed on AIM Italia. Expert System's stake was worth €5.375m and was accounted for within long-term financial investments at a cost of €0.251m. We have treated the gain on disposal as an exceptional financing item.

Exhibit 4: Changes to estimates										
€m	FY20e old	FY20e new	Change	у-о-у	FY21e old	FY21e new	Change	у-о-у	FY22e new	у-о-у
Sales	34.0	31.7	(6.5%)	0.3%	38.2	32.9	(13.8%)	3.8%	46.2	40.2%
Other income & grants	1.5	1.5	0.0%	(27.1%)	1.5	1.5	0.0%	0.0%	1.5	0.0%
Total revenues	35.5	33.2	(6.3%)	(1.4%)	39.7	34.4	(13.2%)	3.6%	47.7	38.5%
Capitalised development costs & changes in WIP	6.1	6.5	6.9%	8.3%	6.1	8.0	30.7%	22.3%	10.3	29.6%
Production value	41.6	39.8	(4.3%)	0.1%	45.8	42.4	(7.4%)	6.7%	58.0	36.8%
EBITDA	5.1	2.0	(60.3%)	(63.2%)	6.9	(5.0)	N/A	N/A	(0.5)	(90.4%)
EBITDA margin	14.3%	6.0%	(8.2%)	(10.1%)	17.5%	-14.4%	(31.9%)	(20.5%)	-1.0%	13.4%
D&A	(6.3)	(6.4)	2.7%		(6.4)	(6.9)	8.5%		(7.9)	
Normalised operating profit	(1.2)	(4.4)	269.1%	1135.7%	0.6	(11.9)	N/A	168.3%	(8.4)	(29.6%)
Normalised operating margin	(3.4%)	(13.3%)	(9.9%)	(12.3%)	1.4%	(34.5%)	(35.9%)	(21.2%)	(17.5%)	16.9%
Amortisation of acquired intangibles	(0.9)	(0.9)	(4.7%)	N/A	0.0	0.0	0.0%	N/A	0.0	N/A
Exceptional items	0.0	0.0	0.0%	N/A	0.0	0.0	0.0%	N/A	0.0	N/A
Reported operating profit	(2.1)	(5.3)	159.4%	N/A	0.6	(11.9)	N/A	124.5%	(8.4)	(29.4%)
Normalised net income	(1.8)	(4.7)	162.7%	672.4%	(0.2)	(11.7)	N/M	149.3%	(8.8)	(24.3%)
Reported net income	(2.6)	(0.9)	(65.4%)	10.0%	(0.2)	(11.7)	N/M	N/M	(8.8)	(24.3%)
Diluted normalised EPS (c)	(4.4)	(11.5)	162.7%	(632.4%)	(0.5)	(28.4)	N/M	(147.0%)	(21.5)	(24.3%)
Net debt	4.2	0.4	(89.6%)	(84.7%)	6.9	14.2	105.5%	N/M	25.6	80.4%
Source: Edison Investment Research										

Our estimates are essentially the company's targets over the forecast period. We expect to monitor the following key indicators to assess whether the company is on track to meet its financial targets:

- Timing of product launches.
- R&D hiring.
- Number of free users of the platform.
- Duration and frequency of platform use by free users.
- Conversion rates from free to paid.
- Expansion rates (net dollar retention NDR) for paid users.
- Channel partner contribution to revenues.

Valuation

In Exhibit 5, we show Expert System's financial and valuation metrics versus three groups of peers:

- software companies providing natural language understanding, big data analytics, enterprise search and/or information management applications;
- software companies selling on a SaaS or subscription basis; and
- Italy-listed companies providing software and/or IT services.



As the benefit from the next couple of years' investment in R&D and sales & marketing does not fall within the two-year period for which peer group forecasts are available, the sales multiples for Expert System will be inflated. On EV/Sales multiples, the company is trading at a discount to the first two peer groups and a premium to Italian peers (which have more modest growth and margin potential). As evidence emerges that the company is tracking the revenue growth and margins targeted in the five-year plan, we would expect the valuation to move more in the direction of the SaaS/subscription software companies.

	Year end	Market cap	List CCY	EV/S	Sales ()	EV/EB		P/E	(x)	EBIT m	argin	EBITDA	margin	Sales g	rowth
		m		CY	NY	CY	NY	CY	NY	CY	NY	CY	NY	CY	NY
Expert System	Dec-20	124	EUR	3.8x	3.7x	63.2x	N/A	N/A	N/A	-13.3%	-34.5%	6.0%	-14.4%	-1.4%	3.6%
Natural Languag	e Understan	ding, Big	Data A	nalytics,	Enterpri	ise Searc	h & Info	Managen	ent						
CommVault	Mar-21	1,749	USD	2.2x	2.1x	16.4x	14.8x	32.6x	25.6x	11.0%	13.5%	13.2%	13.9%	-2.5%	5.3%
Elastic	Apr-21	7,513	USD	13.4x	10.5x	N/A	N/A	N/A	N/A	-13.5%	-9.6%	-10.6%	-5.6%	25.6%	27.6%
EPAM Systems	Dec-20	14,039	USD	5.1x	4.2x	29x	23x	45.8x	36.1x	15.8%	16.7%	17.7%	18.5%	12.1%	21.8%
Micro Focus	Oct-20	1,590	GBp	2.1x	2.2x	6x	6x	3.7x	3.9x	33.3%	33.4%	36.6%	36.7%	-10.2%	-4.4%
Nuance Communications	Sep-20	6,970	USD	5.7x	5.4x	22x	21x	31.1x	28.4x	22.9%	23.9%	25.6%	26.5%	-22.6%	4.2%
OpenText	Jun-20	15,766	CAD	4.6x	4.3x	13x	11x	15.8x	14.0x	32.4%	35.2%	35.4%	37.6%	7.7%	7.9%
Splunk	Jan-21	29,734	USD	12.2x	9.7x	N/A	85x	N/A	175.5x	-2.8%	6.6%	1.2%	11.4%	3.0%	25.7%
Teradata	Dec-20	2,206	USD	1.4x	1.3x	8x	6x	21.3x	14.9x	8.9%	11.6%	17.4%	20.4%	-5.6%	4.4%
Average				5.8x	5.0x	15.7x	13.6x	25.0x	20.5x	13.5%	16.4%	17.1%	19.9%	0.9%	11.6%
SaaS/subscription	n software	companies	S												
Adobe	Nov-20	206,216	USD	16.2x	14.1x	34x	29x	43.8x	38.5x	41.9%	43.2%	47.9%	48.6%	14.0%	15.0%
Atlassian	Jun-20	42,371	USD	26.0x	21.2x	113x	86x	156.5x	128.1x	22.1%	22.1%	22.9%	24.7%	31.7%	22.8%
salesforce.com	Jan-21	168,442	USD	8.0x	6.8x	27x	23x	63.2x	52.0x	16.6%	18.5%	29.8%	30.0%	17.3%	17.8%
Workday	Jan-21	43,137	USD	10.1x	8.6x	44x	37x	80.6x	66.2x	16.1%	17.2%	23.0%	23.0%	15.6%	17.3%
Average				15.1x	12.7x	54.5x	43.7x	86.0x	71.2x	24.2%	25.3%	30.9%	31.6%	19.6%	18.2%
Italian software 8	k services														
TXT e-solutions	Dec-20	101	EUR	0.9x	0.9x	8.5x	7.1x	28.7x	20.5x	6.7%	8.9%	10.8%	12.3%	9.5%	5.9%
Exprivia	Dec-19	41	EUR	0.5x	0.5x	10.0x	8.0x	N/A	N/A	1.1%	2.5%	5.0%	6.1%	-13.2%	2.2%
Piteco	Dec-20	115	EUR	5.1x	4.8x	12.3x	11.3x	18.6x	16.8x	31.5%	33.5%	41.3%	42.5%	5.0%	6.0%
Reply	Dec-20	2,775	EUR	2.2x	2.0x	14.4x	12.7x	26.2x	22.7x	12.0%	12.9%	15.1%	15.7%	4.0%	8.6%
Average				2.2x	2.0x	11.3x	9.7x	24.5x	20.0x	12.8%	14.5%	18.0%	19.2%	1.3%	5.7%

We have performed a discounted cash flow analysis based on the company's plan to FY24, and for the following five years, trending revenue growth down to 4.5% by FY29, trending EBITDA margins up to 29% (which results in an EBIT margin of 20%) and reducing capex/sales to 9% by FY29 (compared to 21% in FY20 and 14% in FY24). We have included the FY20–23 share grant and option grant plans, which add 5m additional shares to the existing 41.1m outstanding shares.

Using a WACC of 9% and a long-term growth rate of 3%, we arrive at a per share value of €5.43. We note that this valuation assumes perfect execution of the plan, and we would expect the share price to move towards this value as progress according to the plan becomes evident. This valuation would equate to an EV/Sales multiple of 2.5x and an EV/EBITDA multiple of 11.2x in FY24.

A 1pp increase/decrease in the WACC results in a per share value of €4.33/€6.99.



	€'000s 2015	2016	2017	2018	2019	2020e	2021e	2022
31-December	IT GAAP	IT GAAP	IT GAAP	IT GAAP	IT GAAP	IT GAAP	IT GAAP	IT GAA
PROFIT & LOSS								
Revenue	19,368	25,057	27,783	30,457	33,712	33,248	34,445	47,69
EBITDA	1,463	(2,245)	1,711	4,638	5,459	2,011	(4,962)	(47
Operating Profit (before amort. and except.)	(1,226)	(5,941)	(3,189)	(662)	(358)	(4,426)	(11,875)	(8,36
Intangible Amortisation	(2,549)	(2,608)	(2,608)	(2,567)	(2,520)	(902)	0	
Exceptionals	0	0	(700)	0	0	0	0	
Other	0	0	0	0	0	0	0	
Operating Profit	(3,775)	(8,549)	(6,496)	(3,229)	(2,878)	(5,328)	(11,875)	(8,36
Net Interest	213	(156)	(2,191)	97	(123)	(779)	(1,099)	(1,46
Profit Before Tax (norm)	(1,013)	(6,097)	(5,380)	(565)	(481)	(5,205)	(12,974)	(9,82
Profit Before Tax (reported)	(3,562)	(8,705)	(8,687)	(3,131)	(780)	(983)	(12,974)	(9,82
Tax	277	579	348	(650)	(203)	98	1,297	98
Profit After Tax (norm)	(934)	(5,692)	(5,164)	(508)	(607)	(4,684)	(11,677)	(8,84
Profit After Tax (reported)	(3,284)	(8,126)	(8,339)	(3,781)	(983)	(884)	(11,677)	(8,84
Average Number of Shares Outstanding (m)	22.8	25.8	28.1	35.8	38.6	40.8	41.1	41
EPS - normalised (c)	(4.1)	(22.0)	(18.3)	(1.4)	(1.6)	(11.5)	(28.4)	(21.
EPS - normalised (c)	(4.1)	(22.0)	(18.3)	(1.4)	(1.6)	(11.5)	(28.4)	(21.
EPS - (IFRS) (c)	(14.4)	(31.5)	(29.6)	(10.6)	(2.5)	(2.2)	(28.4)	(21.
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
EBITDA Margin (%)	7.6	-9.0	6.2	15.2	16.2	6.0	-14.4	-1.
Adj Operating Margin (%)	-6.3	-23.7	-11.5	-2.2	-1.1	-13.3	-34.5	-17
BALANCE SHEET								
Fixed Assets	20,301	20,379	18,864	16,655	14,761	14,190	15,748	18,69
Intangible Assets	18,539	18,372	16,944	14,734	13,092	12,790	14,380	17,37
Tangible Assets	916	915	792	715	702	684	652	60
Investments	846	1,092	1,128	1,206	968	716	716	71
Current Assets	42,588	37,012	37,634	38,004	51,442	54,554	62,093	58,24
Stocks	1,797	627	99	109	59	59	59	
Debtors	10,228	10,233	12,384	15,792	20,447	21,060	21,060	24,64
Cash	11,249	9,063	11,235	7,883	21,647	24,047	30,289	21,87
Other	19,314	17,088	13,916	14,220	9,289	9,388	10,685	11,66
Current Liabilities	(20,517)	(22,679)	(19,480)	(21,170)	(22,839)	(23,264)	(24,037)	(28,97
Creditors	(15,082)	(16,459)	(14,104)	(15,511)	(16,945)	(17,370)	(18,144)	(23,08
Short term borrowings	(5,435)	(6,219)	(5,376)	(5,659)	(5,893)	(5,893)	(5,893)	(5,89
Long Term Liabilities	(22,227)	(18,275)	(17,742)	(18,411)	(22,464)	(22,464)	(42,464)	(45,46
Long term borrowings	(18,240)	(15,252)	(14,683)	(14,811)	(18,588)	(18,588)	(38,588)	(41,58
Other long term liabilities	(3,987)	(3,023)	(3,060)	(3,600)	(3,876)	(3,876)	(3,876)	(3,87
Net Assets	20,145	16,437	19,276	15,077	20,901	23,017	11,340	2,49
CASH FLOW								
Operating Cash Flow	2,738	2,088	(1,921)	2,583	2,479	1,802	(4,208)	86
Net Interest	(324)	(155)	(626)	(441)	(558)	(758)	(1,078)	(1,440
Tax	(1,576)	(100)	0	0	0	0	0	(1,
Capex	(20,045)	(6,378)	(6,321)	(5,830)	(6,749)	(7,020)	(8,472)	(10,83
Acquisitions/disposals	3,045	46	1,275	(76)	7,496	5,375	0,472)	(10,00
Financing	6,573	4,418	11,178	0	7,430	3,000	0	
Dividends	0,575	0	0	0	7,004	0,000	0	
Net Cash Flow	(9,588)	18	3,585	(3,764)	9,753	2,399	(13,758)	(11,41
Opening net debt/(cash)	2,839	12,426	12,408	8,824	12,587	2,834	434	14,19
HP finance leases initiated	2,039	12,420	12,400	0,024	12,507	2,034	0	14,13
Other	0	0	0	0	0	0	0	
Closing net debt/(cash)	12,426	12,408	8,824	12,587	2,834	434	14,192	25,60



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