

# EXPERT SYSTEM

Still dynamic

November 18<sup>th</sup>, 2019

# BUY

Target Price: €3.75

Upside Potential : +25%

Despite the strong appreciation of ES shares since we initiated coverage in January 2019 (+157% YTD), we believe that the re-rating is not yet complete given that the group (i) still suffers from a significant discount versus peers, (ii) enjoys greater visibility on its reference market, and (iii) holds a superior proprietary technology based on AI algorithms pushing it to win tenders 70% of the time.

**Positives:** We believe that ES can rely on certain positive aspects unique to the company, inter alia (i) the substantial growth prospects offered by AI, (ii) its position as independent leader in artificial semantic cognitive intelligence, (iii) the strong dynamics emanating from the U.S., UK and French markets, (iv) the market validation confirmed by high customer satisfaction, a low churn rate and the fact that ES is mentioned in the most prestigious sector reviews (i.e. Gartner & Forrester), (v) its ability to implement tailor-made, flexible solutions for its customers, (vi) a technology that is protected and patented, even in the United States, (vii) a BM flexible enough to lead the group towards more recurrence and an annual licensing model (as opposed to a perpetual model), and (viii) customer diversification, the top 10 first customers representing c.32% of turnover.

**Main risks:** In our opinion, the main risks are as follows: (i) dilution resulting from possible future capital increases to finance the company's development, (ii) the lack of financial credibility vis-à-vis foreign investors following the non-application of IFRS standards, the accounts being released in IT GAAP, (iii) competition from tech giants, offset by the fact that ES's offer is not their core business and ES's offer is both technologically superior and market validated, (iv) the high WC consumption for this sector of activity, and (v) product monetisation could be improved.

**Valuation:** It should be noted that if ES had been listed in the U.S.A., the current market capitalization would have been much higher. We also believe that there is a speculative bias on the group insofar as ES could be an interesting M&A target for many players.

We have used the 2020E EV/Sales and EV/EBITDA trading multiple methods to value ES, using the 2 most relevant multiples as applied to the group, then nevertheless applying a -20% discount corresponding to the listing place and size. It should be noted that the stock's liquidity has significantly improved since we initiated coverage in January 2019, with free float rotation taking place in a reduced number of days versus peers.

## Market Information

Industry	Artificial Intelligence
Share price (€)	2.99
Market cap. (€m)	119.4
Market segment	FTSE AIM Italia
Bloomberg	ESXY IM

## Ownership structure

Management	22.4%
Ergo Srl	9.7%
Free Float	67.9%

€m (31/12)	2018A	2019E	2020E	2021E
<b>Sales</b>	<b>28.7</b>	<b>32.8</b>	<b>37.7</b>	<b>43.3</b>
Δ%	9.8%	14.3%	14.9%	14.9%
<b>EBITDA</b>	<b>4.6</b>	<b>5.3</b>	<b>6.9</b>	<b>8.5</b>
Margin (%)	16.2%	16.2%	18.3%	19.6%
<b>Net income</b>	<b>(3.8)</b>	<b>(3.5)</b>	<b>(0.0)</b>	<b>1.4</b>
EPS (€)	(0.11)	(0.09)	(0.00)	0.04
Δ%	n.m.	n.m.	n.m.	n.m.
Dividend (€)	0.00	0.00	0.00	0.00
Dividend Yield	0.0%	0.0%	0.0%	0.0%
<b>FCF</b>	<b>(2.9)</b>	<b>(2.7)</b>	<b>(1.0)</b>	<b>(0.2)</b>
RoCE	(14.5%)	(11.2%)	1.3%	5.8%
<b>EV/Sales (x)</b>		<b>3.8x</b>	<b>3.3x</b>	<b>2.9x</b>
<b>EV/EBITDA (x)</b>		<b>23.4x</b>	<b>18.3x</b>	<b>14.9x</b>
<b>EV/EBIT (x)</b>		<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>
Net debt	12.4	8.7	10.1	10.7
Net Gearing	82%	47%	55%	54%

Midcap Partners' estimates

## Next event

FY2019 earnings	n.a.
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## Recommendations History

17/01/2019	BUY
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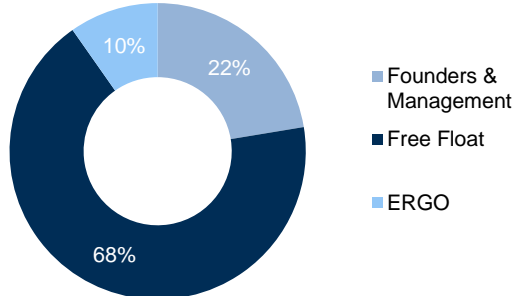
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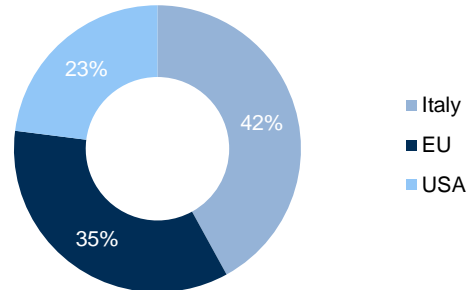
# In a Nutshell

## Capital Structure



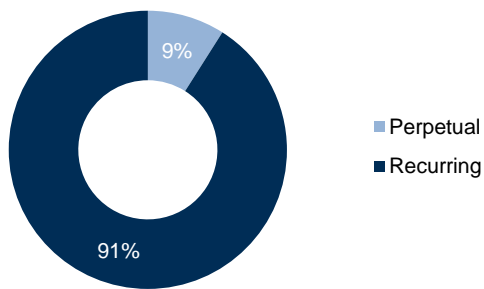
Source: Company

## Geographical Distribution of H1 2019 Revenues



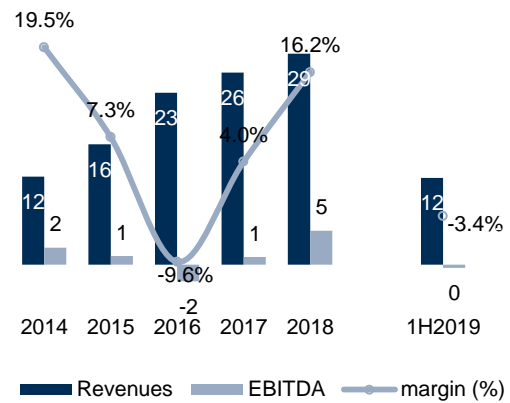
Source: Company

## Distribution of H1 2019 Revenues by Type of Licence



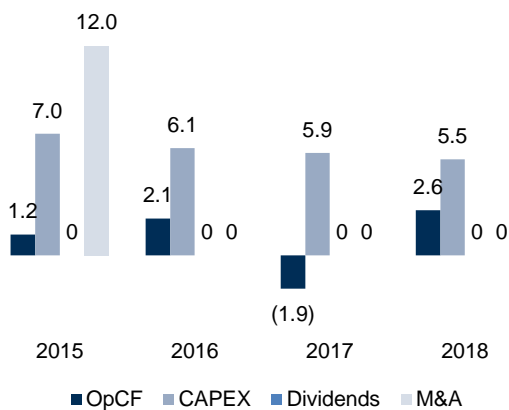
Source: Company

## Evolution of Reported EBITDA (€M)



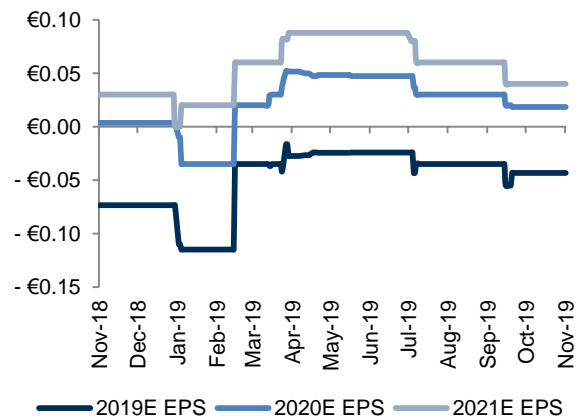
Source: Company

## Capital Allocation (€M)



Source: Company

## EPS Evolution Over 1 Year



Source: Company



## SWOT Analysis

### Strength

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- Independent leader in semantic cognitive AI and market validation (company mentioned in the most prestigious industry reviews such as Gartner & Forrester)
- Strong know-how for implementing tailor-made solutions
- Technologies protected and patented (also in the U.S.A.)
- The majority of revenues are recurring thanks to certain licenses and maintenance
- Migration to annual vs. perpetual licensing model

### Weaknesses

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- Low margins, which could be improved as a result of an increased pricing power exercise
- Significant investments in R&D and business
- Low cash conversion despite a substantial increase in turnover
- Limited visibility on the business (c. 6 months of backlog)

### Opportunities

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- Strong growth in the addressable market
- More aggressive in terms of pricing power
- Continue x-sell and up-sell strategies
- Centralize R&D in a country with significant tax savings
- Consolidate the group's presence in FR & GR through M&A transactions
- Speculative aspect of the project: thanks to its unique know-how, ES could arouse the interest of tech giants

### Threats

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- Dilution risk following a potential capital increase
- Competition from tech giants, even if ES's offer is not part of their core business
- Accounting carried out under IT GAAP and not under IFRS

Sources: Company, Midcap Partners

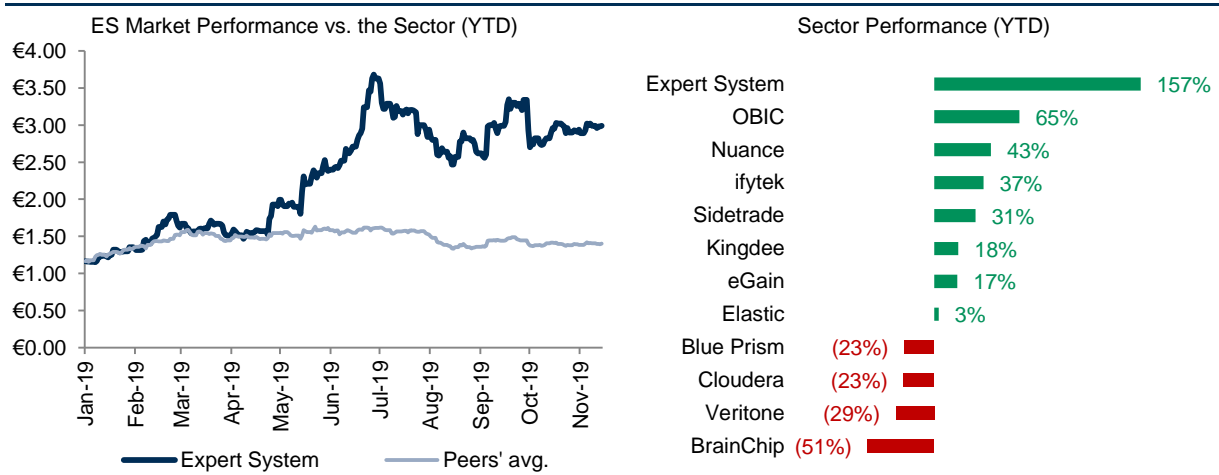
## Performance & Valuation

### Market Performance

ES experienced a strong performance (+157% YTD) following the rerating initiated since January 2019 with H2 2018 performance not being favourable for small caps in general.

In our opinion, its rerating potential has not yet been exhausted as the group's shares are still trading with a significant discount versus peers. Future newsflow should also be of a high quality.

**Table 1: YTD Market Performance**



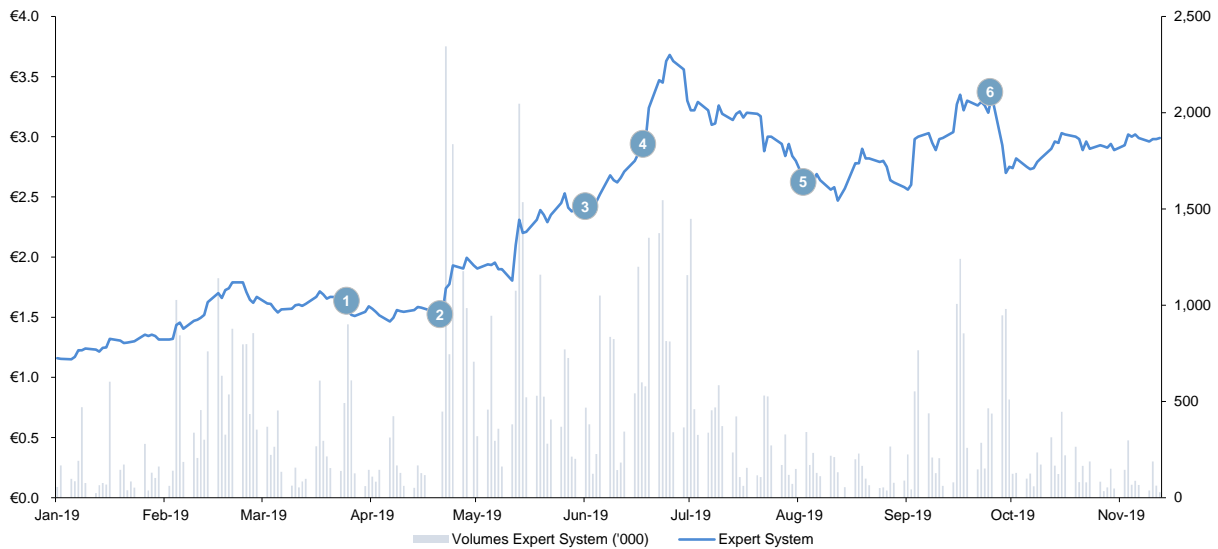
Sources: Midcap Partners, Bloomberg (data from 11/14/2019)

### Explanation of the Share Price

As mentioned above, ES's share prices rose sharply in YTD, notably due to (i) the recovery from the negative performance of H2 2018, (ii) an improvement in the company's visibility, and (iii) the quality of its newsflow.

In this respect, we are commenting below on the impact of the newsflow on the group's share price.

**Table 2: Impact of Newsflow on the ES Share Price (+157% YTD)**



- 1 **26/03/2019:** FY2018 earnings, €28.7m of sales (+12.1% YoY), EBITDA at €4.6m up +343% YoY. NFD at €12.4m.
- 2 **23/04/2019:** €7.0m Primary ABB fully subscribed by ERGO (HoldCo owned by influential private investors) corresponding to 9.8% of the share capital
- 3 **01/06/2019:** Launch of a new tool in Cogito able to analyze and understand people's opinions on social medias
- 4 **20/06/2019:** Integration of Machine Learning and Knowledge Graphs
- 5 **05/08/2019:** Issuance of a 7-year tenor €5.0m minibond with a margin equal to 3-month EURIBOR+225bps
- 6 **27/09/2019:** H1 2019 earnings, Value of production at €15.4m (-3.4% YoY), and negative EBITDA at -€0.43m (vs +€70k for H1 2018)

Sources: Midcap Partners, Bloomberg (data from 11/14/2019)

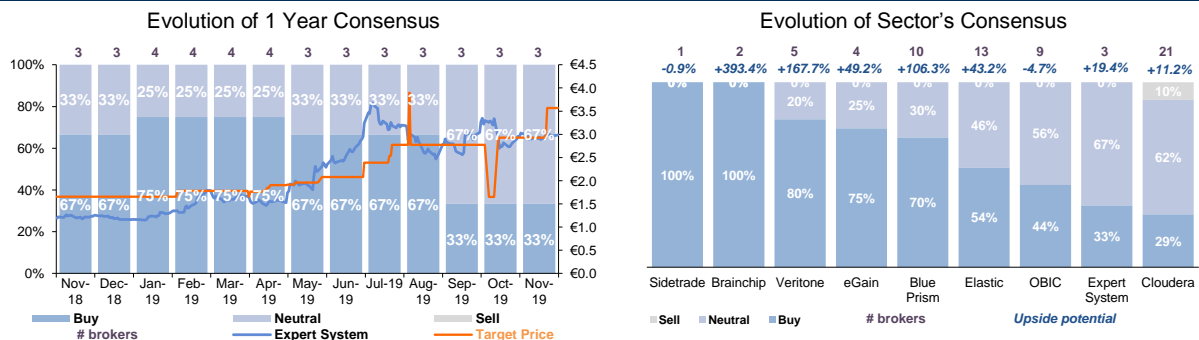
### Consensus Evolution

The average share price of €3.57 has not yet been reached, giving it significant upside potential (+19.4%).

It should be noted however that since we have initiated coverage at €1.25, we are the only broker to give it a Buy rating at this valuation. With shares currently trading at around €3.0, all other brokers in the consensus are at a Hold rating.

Overall, analysts are very positive about the sector's evolution (represented by peers) with an average majority of analysts Buying (65%), 34% Holding and 1% Selling.

**Table 3: Evolution of the ES Consensus**



Sources: Midcap Partners, Bloomberg (data from 11/14/2019)



## Volumetric Analysis of the Stock

ES shares benefit from satisfactory liquidity given its size and listing place, with a free float rotation of 113 trading days based on a daily 3-month average versus 138 (median) for peers.

**Table 4: Volumetric Analysis of the Stock**

Company	Country	Market cap (Ccy m)	Free float (%)	Free float (Ccy m)	Volumes* (Ccy m)	Float rot. (trading days)
<b>Expert System</b>		<b>119</b>	<b>67.9%</b>	<b>81</b>	<b>0.72</b>	<b>113</b>
OBIC		1,164,695	63.8%	742,552	2,214.29	335
Elastic		5,336	50.0%	2,668	109.75	24
Cloudera		2,156	65.5%	1,413	48.53	29
Blue Prism		792	81.2%	644	4.39	147
eGain		214	62.6%	134	1.03	130
Sidetrade		92	53.0%	49	0.02	2,106
Veritone		60	71.1%	43	1.57	27
Brainchip		38	66.1%	25	0.13	189

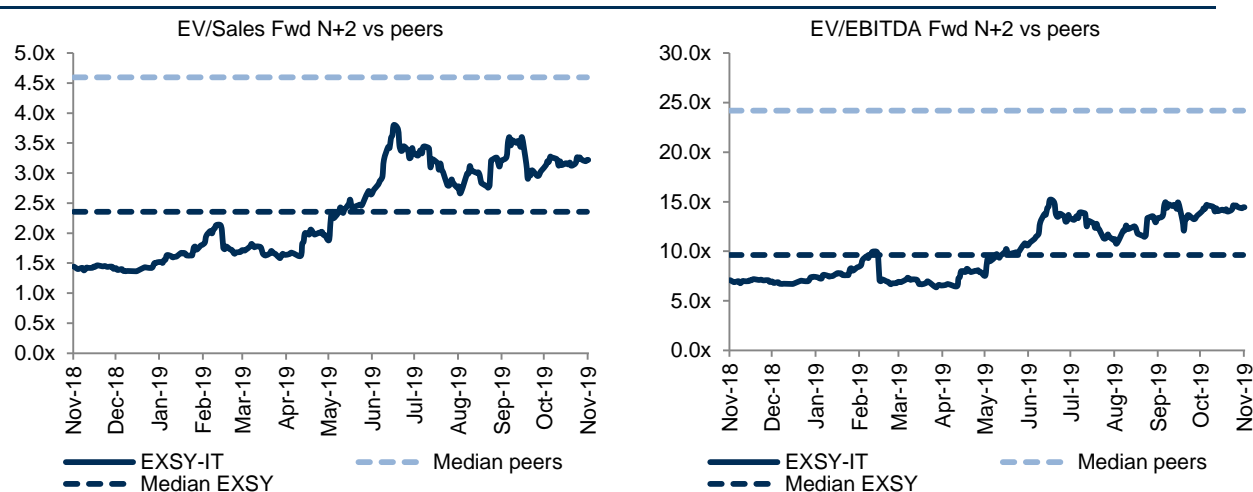
\* Daily avg. 3 months

Sources: Midcap Partners, Bloomberg (data from 11/14/2019)

## An Undervalued Stock versus Peers

In our opinion, the stock's revaluation is not yet complete since ES is trading at a significant discount versus peers when we look at the EV/Sales and EV/EBITDA N+2 valuation ratios, the two most relevant multiples for the sector's valuation having a strong correlation with ES's share price performance over 1 year (R Fwd EV/Sales = 99.3% and Fwd EV/EBITDA = 95.4%).

**Table 5: Evolution of Trading Multiples versus Peers**



Sources: Midcap Partners, FactSet (data from 11/14/2019)

## Trading Multiples

ES is trading at a significant discount versus peers, despite the fact that it is a best-in-class in terms of the technology it offers to customers. This is reflected in its major government contracts (Italy, France, U.S. in particular) and prestigious institutions (IMF, Defense Department in the U.S.A.). During the various successful tenders, ES often found itself in front of competitors with greater resources and visibility.

It should be noted that ES's activity is CapEx intensive since the CapEx/sales 2019E is c.19% versus 3% in median peers. This is mainly due to the substantial investments in R&D (c.€5.0m p.a. fully capitalised and amortised over 5 years), enabling the group to distinguish itself technologically from its competitors.

In our opinion, ES's valuation should improve as a result of (i) the group's improved visibility following BM's change in its license policy, (ii) the constant improvement of the group's offer and its customer perception, and (iii) ES's chronic undervaluation versus the sector.

**Table 6: Trading Multiples**

Company Name	Country	Market Value (€m)		EV/Sales			EV/EBITDA			EBITDA margin		
		Equity	EV	Dec-19	Dec-20	Dec-21	Dec-19	Dec-20	Dec-21	Dec-19	Dec-20	Dec-21
<b>Software &amp; AI</b>												
BrainChip Holdings Ltd.	Australia	42	59	33.6x	11.2x	6.0x	n/a	24.9x	13.4x	n/a	45.0%	45.0%
eGain Corporation	United States	215	189	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
iflytek Co., Ltd. Class A	China	9 302	6 592	6.6x	5.0x	3.8x	53.8x	40.4x	31.0x	12.3%	12.3%	12.1%
Nuance Communications, Inc.	United States	4 350	5 625	3.1x	2.9x	2.6x	10.3x	12.5x	12.3x	30.0%	23.0%	21.3%
Sidetrade SA	France	91	98	3.1x	2.6x	2.2x	38.3x	57.2x	33.0x	8.1%	4.6%	6.5%
Veritone, Inc.	United States	63	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
OBIC Co., Ltd.	Japan	11 844	7 022	15.9x	14.6x	13.4x	29.5x	26.3x	23.5x	53.8%	55.5%	56.9%
Kingdee International Software Group Co., Ltd.	China	3 136	2 380	7.1x	5.8x	4.8x	34.2x	30.8x	26.6x	20.9%	19.0%	17.9%
Cloudera, Inc.	United States	2 217	1 461	2.7x	2.4x	1.9x	61.7x	35.9x	8.8x	4.3%	6.6%	21.9%
Blue Prism Group Plc	United Kingdom	823	672	6.3x	4.0x	2.8x	n/a	n/a	n/a	n/a	n/a	n/a
Elastic NV	United States	5 337	5 311	13.6x	10.0x	7.3x	n/a	n/a	n/a	n/a	n/a	n/a
<b>MEDIAN</b>				<b>6.6x</b>	<b>5.0x</b>	<b>3.8x</b>	<b>36.3x</b>	<b>30.8x</b>	<b>23.5x</b>	<b>18.2%</b>	<b>16.2%</b>	<b>15.9%</b>
<b>Expert System SpA vs. peers median</b>				<b>3.8x</b> (43%)	<b>3.3x</b> (33%)	<b>2.9x</b> (22%)	<b>23.4x</b> (36%)	<b>18.3x</b> (41%)	<b>14.9x</b> (37%)	<b>16.2%</b> -206ppt	<b>18.3%</b> 205ppt	<b>19.6%</b> 367ppt

Sources: Midcap Partners, FactSet



## The Company in a Nutshell

Founded in Modena (Italy) in 1989 and listed on the Milan stock exchange in 2014 at €1.8 per share, ES is a software publisher based in Europe and America developing and marketing cognitive analysis software based on artificial intelligence algorithms (Robotic Process Automation or RPA segment) capable of reading and understanding the content of text documents in 14 different languages. The group has +130 active clients, the majority of which operate in the Banking, Insurance, Public Administration, Defense and Intelligence, O&G, Media and Publishing sectors. ES is an international group with a network of 230 employees in 6 countries.

### A Committed and Engaged Management Team

ES has an experienced management team with highly expert profiles that has supported the group's development since its creation. It is also engaged through the c.22% stake that it holds.

As above mentioned, in April 2019 ERGO acquired a stake in the group through a Primary ABB transaction involving 9.8% of the share capital. This HoldCo is controlled by influential private investors such as Claudio Costamagna (former Global Head of the IBD of Goldman Sachs EMEA, former CEO of Bulgari, Luxottica, Salini Impregilo, Cassa Depositi e Prestiti (Italian Ministry of Finance), Diego Piacentini (member of the Bocconi Management Board, former VP of Amazon, former GM of Apple Europe), and Francesco Caio (CEO of Saipem, former CEO of Poste Italiane for which he orchestrated the IPO in October 2015, former CEO of Avio (partially sold to GE), former VP of Nomura and Lehman Brothers, former CEO of Indesit) – allowing them to infuse their best practices throughout the group.

### Strategy

ES's main objective is to maintain its position as an independent market leader for cognitive analysis technology for unstructured content management, building on its technological progress in this area.

ES has defined clear strategic orientations for the coming years with a strong focus on organic growth, *inter alia*:

- To penetrate existing markets as thoroughly as possible with its current offer, in particular in the United States, Germany and France, following the recent restructuring of the German and French teams;
- Expansion of marketing activities on a global scale;
- Accelerate the implementation of an indirect structured channel;
- Produce Cogito solutions for specific vertical markets (e.g. insurance) directly and indirectly;
- Target and address multinational companies, with a focus on the financial and insurance sectors;
- Increase the share of revenue from annual (versus perpetual) license sales;
- Optimize resources to increase project margins and profitability.

Currently, ES is showing no vocation for M&A while its latest transactions are in the process of being integrated and deployed.

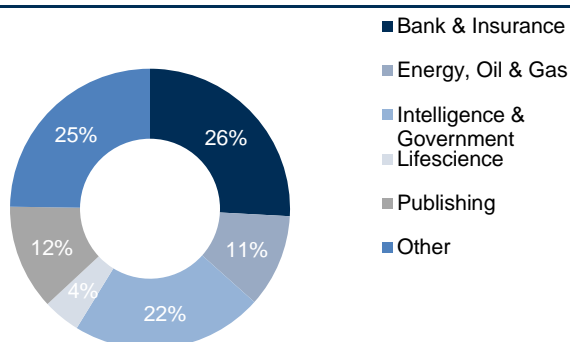
### Proven Know-how Enabling ES to Present a Complete and Distinct Range of Products and Services

- ES is the independent market leader in cognitive analysis technology for unstructured content management and has a strong growth profile;
- Patented technology: Unlike most competitors, its code (i) does not contain any open source software, (ii) was developed in-house, (iii) is wholly owned by ES, and (iv) its tech is also patented in the U.S.A.;
- A unique product & service offer: Cogito, ES's software solution, distinguishes itself from traditional technologies that treat text as strings (keywords) or by statistically based approaches. ES's technology is based on pure machine learning.

### A Sharpened Sales Organisation

- The group's progressive internationalisation: the share of export revenues accounted for 56% in 2018 compared to only 17% in 2013;
- Its development strategy has prioritized the U.S.A., where the group has been able to expand thanks to its high-level sales team. It remains confident regarding its development in this region with a significant track record and an enriched pipeline;
- The group's commercial optimization: The indirect marketing method is expected to represent a significant portion of MT revenues (versus 7% 2018A), through key partnerships with (i) system integrators (e.g. ATOS, Cap Gemini, Sopra Steria, Cloudera, etc.), and (ii) consulting companies (e.g. Deloitte, Accenture, etc.), enabling the group to improve its visibility and its WC;
- By re-targeting strategic customers who have significant stakes, i.e., multinationals with a larger AI budget and agile enough to absorb technological change, and with a view to better invoicing throughout the year, thus reducing H2's seasonal effect (55% of 2018 revenue was generated during H2 versus 68% in 2017). In this respect, it should be noted that during FY2018, some contracts were invoiced until 12/28/2018, in this sense the group may jeopardize its revenue guidance if they are invoiced after 12/31 of the current year;
- Optimization of revenue mix: migration to an annual license at the expense of perpetual licenses. Annual licenses accounted for 72% of total licenses sold in 2018 compared to 41% in 2017. This effect will be considered positive in the medium term;
- ES has a loyal (churn <5%), diversified and diffuse customer base, the top #1 customers and #10 customers contributed 4% and 32% to 2018A sales respectively (vs top #10 @40% in 2017).

**Table 7: Sectoral Distribution of the Customer Base (FY2018)**



Source: Company



**A strong competitive positioning and access to major contracts that improve the group's credibility and visibility**

- ES is the independent leader in cognitive analysis technologies for unstructured content management;
- Strong reputation: Thanks to its unique offers and expertise, ES has established itself as an independent leader in the sector, thus benefiting from significant influence. It is cited as a reference by the most influential players and sector experts such as Forrester, Gartner, Google, etc. and has also won several significant awards including the S&P 500 Blue Chip;
- Recognition validated by the contract: Call for tenders awarded by the U.S. Department of Defense in March 2017. Among the 15 companies pre-selected for the tender, also including U.S. players and larger companies, Cogito (developed by ES) was the product that met the maximum of the required criteria (*i.e.* 18). It should be noted that the second largest company met only 13 of the 18 criteria required, highlighting ES's technological superiority;
- +130 active clients: ES has enriched its international client base, such as in France where the group provides its range of services to the French Government, as well as to major groups such as BNP, AXA, Crédit Agricole, Sanofi, SEB, etc.
- In calls for tenders consisting of proof of concept, ES has a very high success rate, winning the contract on an average of 70% of the time.

**The Stock's Speculative Bias**

We believe that ES is subject to significant speculative bias; it would be an ideal target for potential buyers wishing to acquire cutting-edge technology in a high-potential market. This effect is all the more favourable by the fact that the free float represents 68% of the capital. However, management is necessary for the continuity and success of the business. In this sense, any M&A transaction will only be carried out with management's consent.

## Financial Data

Income statement (€m)	2016A	2017A	2018E	2019E	2020E	2021E
<b>Sales</b>	<b>23.4</b>	<b>26.1</b>	<b>28.7</b>	<b>32.8</b>	<b>37.7</b>	<b>43.3</b>
Δ YoY	42.6%	11.8%	9.8%	14.3%	14.9%	14.9%
<b>Gross profit</b>	<b>21.1</b>	<b>24.0</b>	<b>26.9</b>	<b>29.0</b>	<b>33.6</b>	<b>38.8</b>
Gross margin	90.5%	91.8%	93.7%	88.5%	89.2%	89.8%
SG&A	(30.7)	(30.1)	(28.8)	(31.3)	(34.3)	(38.0)
Others	7.4	7.2	6.5	7.6	7.6	7.6
<b>EBITDA</b>	<b>(2.2)</b>	<b>1.0</b>	<b>4.6</b>	<b>5.3</b>	<b>6.9</b>	<b>8.5</b>
margin	(9.6%)	4.0%	16.2%	16.2%	18.3%	19.6%
D&A	(6.3)	(7.4)	(7.9)	(7.8)	(6.5)	(6.2)
<b>EBIT</b>	<b>(8.5)</b>	<b>(6.4)</b>	<b>(3.2)</b>	<b>(2.5)</b>	<b>0.4</b>	<b>2.3</b>
margin	(36.6%)	(24.3%)	(11.3%)	(7.5%)	1.0%	5.2%
Net interest income/(expense)	(0.3)	(2.2)	0.1	(0.4)	(0.4)	(0.4)
Others	0.0	(0.1)	0.0	0.0	0.0	0.0
<b>EBT</b>	<b>(8.8)</b>	<b>(8.7)</b>	<b>(3.1)</b>	<b>(2.9)</b>	<b>(0.0)</b>	<b>1.9</b>
Provision for taxes	0.6	0.3	(0.6)	(0.6)	0.0	(0.4)
Implied tax rate	n.s.	n.s.	(20.7%)	(21.0%)	24.0%	24.0%
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income</b>	<b>(8.2)</b>	<b>(8.3)</b>	<b>(3.8)</b>	<b>(3.5)</b>	<b>(0.0)</b>	<b>1.4</b>

Balance sheet (€m)	2016A	2017A	2018E	2019E	2020E	2021E
Net PP&E	0.9	0.8	0.7	0.7	0.5	0.4
Net intangibles	18.4	16.9	14.7	12.5	11.7	11.1
Investments	6.5	6.7	5.4	5.4	5.4	5.4
Other long-term assets	1.7	2.1	4.1	4.1	4.1	4.1
<b>Non current assets</b>	<b>27.5</b>	<b>26.6</b>	<b>24.9</b>	<b>22.7</b>	<b>21.7</b>	<b>21.0</b>
Inventory	0.6	0.1	0.1	0.2	0.2	0.3
Accounts receivable	10.2	12.4	15.8	18.0	20.7	23.8
Other current assets	10.0	6.2	5.9	5.9	5.9	5.9
Cash & cash equivalents	9.1	11.2	7.9	11.1	9.8	9.8
<b>Current assets</b>	<b>29.9</b>	<b>29.9</b>	<b>29.7</b>	<b>35.3</b>	<b>36.7</b>	<b>39.8</b>
<b>Total assets</b>	<b>57.4</b>	<b>56.5</b>	<b>54.7</b>	<b>58.0</b>	<b>58.4</b>	<b>60.8</b>
Total common equity	16.4	19.3	15.1	18.6	18.6	20.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0
<b>Shareholders' equity</b>	<b>16.4</b>	<b>19.3</b>	<b>15.1</b>	<b>18.6</b>	<b>18.6</b>	<b>20.0</b>
LT Debt	15.3	14.7	14.8	14.9	16.6	18.2
Other long-term liabilities	2.3	3.1	3.6	3.6	3.6	3.6
<b>Non current liabilities</b>	<b>17.6</b>	<b>17.7</b>	<b>18.4</b>	<b>18.5</b>	<b>20.2</b>	<b>21.8</b>
ST Debt	6.2	5.4	5.7	4.9	3.4	2.4
Other current liabilities	14.4	8.4	10.4	10.4	10.4	10.4
Accounts payable	2.7	5.7	5.1	5.5	5.8	6.2
<b>Current liabilities</b>	<b>23.4</b>	<b>19.5</b>	<b>21.2</b>	<b>20.8</b>	<b>19.6</b>	<b>19.0</b>
<b>Total liabilities &amp; equity</b>	<b>57.4</b>	<b>56.5</b>	<b>54.7</b>	<b>58.0</b>	<b>58.4</b>	<b>60.8</b>

Cash flow statement	2016A	2017A	2018E	2019E	2020E	2021E
Operating Cash Flow	3.0	1.3	5.9	4.7	6.9	8.0
Δ Working capital	(0.9)	(3.3)	(3.3)	(2.0)	(2.4)	(2.7)
<b>Cash flow from operations</b>	<b>2.1</b>	<b>(1.9)</b>	<b>2.6</b>	<b>2.8</b>	<b>4.5</b>	<b>5.3</b>
CapEx	(6.1)	(5.9)	(5.5)	(5.5)	(5.5)	(5.5)
<b>FCF</b>	<b>(4.0)</b>	<b>(7.8)</b>	<b>(2.9)</b>	<b>(2.7)</b>	<b>(1.0)</b>	<b>(0.2)</b>
Disposals	0.0	0.0	0.0	0.0	0.0	0.0
Acquisitions	0.0	0.0	0.0	0.0	0.0	0.0
Others	(0.2)	0.8	(0.4)	0.0	0.0	0.0
<b>Cash flow from investing</b>	<b>(6.3)</b>	<b>(5.0)</b>	<b>(5.9)</b>	<b>(5.5)</b>	<b>(5.5)</b>	<b>(5.5)</b>
Δ Debt	(2.4)	(1.5)	0.4	(0.7)	0.1	0.6
Δ Equity	4.4	11.2	0.0	7.0	0.0	0.0
Dividends paid (common & pref)	0.0	0.0	0.0	0.0	0.0	0.0
Other financing cash flows	0.0	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)
<b>Cash flow from financing</b>	<b>2.1</b>	<b>9.1</b>	<b>(0.0)</b>	<b>5.9</b>	<b>(0.3)</b>	<b>0.2</b>
Currency translation effect on cash	0.0	0.0	0.0	0.0	0.0	0.0
<b>Δ cash</b>	<b>(2.2)</b>	<b>2.2</b>	<b>(3.4)</b>	<b>3.2</b>	<b>(1.3)</b>	<b>0.0</b>
<b>Cash BoP</b>	<b>11.2</b>	<b>9.1</b>	<b>11.2</b>	<b>7.9</b>	<b>11.1</b>	<b>9.8</b>
<b>Cash EoP</b>	<b>9.1</b>	<b>11.2</b>	<b>7.9</b>	<b>11.1</b>	<b>9.8</b>	<b>9.8</b>

KEY RATIOS	2016A	2017A	2018E	2019E	2020E	2021E
Δ Sales	42.6%	11.8%	9.8%	14.3%	14.9%	14.9%
Δ EBITDA	n.m.	343.3%	14.4%	29.5%	29.5%	23.5%
Δ EBIT	n.m.	n.m.	n.m.	n.m.	115.4%	495.7%
Δ Net income	n.m.	n.m.	n.m.	n.m.	99.5%	n.m.
Gross profit	90.5%	91.8%	93.7%	88.5%	89.2%	89.8%
EBITDA margin	(9.6%)	4.0%	16.2%	16.2%	18.3%	19.6%
EBIT margin	(36.6%)	(24.3%)	(11.3%)	(7.5%)	1.0%	5.2%
Net margin	(35.3%)	(31.9%)	(13.2%)	(10.6%)	(0.0%)	3.3%
EPS	(0.29)	(0.23)	(0.11)	(0.09)	(0.00)	0.04
DPS	0.00	0.00	0.00	0.00	0.00	0.00
Dividend Yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WC in % of sales	34.9%	26.0%	37.6%	38.8%	40.2%	41.3%
DIO	102	17	22	22	22	22
DSO	160	173	201	201	201	201
DPO	30	25	34	34	34	34
FCF	(4.0)	(7.8)	(2.9)	(2.7)	(1.0)	(0.2)
FCF yield	n.m.	n.m.	(2.4%)	(2.3%)	(0.9%)	(0.2%)
Taux de conversion (FCF/EBITDA)	n.m.	n.m.	(62.7%)	(51.8%)	(14.8%)	(2.3%)
CAPEX/Sales	26%	22%	19%	17%	15%	13%
RoE	(49%)	(47%)	(22%)	(21%)	(0%)	7%
RoA	(14%)	(15%)	(7%)	(6%)	(0%)	2%
RoCE	(35%)	(24%)	(14%)	(11%)	1%	6%
Net Gearing	75%	46%	83%	47%	55%	54%
Net leverage ratio	(5.5x)	8.4x	2.7x	1.6x	1.5x	1.3x
EV/Sales				3.8x	3.3x	2.9x
EV/EBITDA				23.4x	18.3x	14.9x
EV/EBIT				n.m.	n.m.	n.m.
P/E				n.m.	n.m.	n.m.

**MIDCAP PARTNERS vs CONSENSUS**

	2019E		2019E		2020E	
	Midcap Partners	Consensus	Midcap Partners	Consensus	Midcap Partners	Consensus
Sales	32.8	32.9	37.7	37.2	43.3	43.3
EBITDA	5.3	6.3	6.9	8.3	8.5	n/a
EBIT	(2.5)	1.3	0.4	3.8	2.3	n/a
EPS	(0.09)	(0.04)	(0.00)	0.02	0.04	0.04

## Disclaimer

This document may refer to valuation methods defined as follows:

- 1/ DCF method: discounting future cash flows generated by the business's operations. Cash flows are determined using the analyst's financial forecasts and models. The discount rate used corresponds to the weighted average cost of capital, which is defined by the weighted average cost of the company's debt and the theoretical cost of equity as estimated by the analyst.
- 2/ Trading multiples method: application of stock-market valuation multiples, or multiples observed for recent transactions. These multiples may be used as benchmarks and be applied to the company's financial aggregates to determine their valuation. The sample is prepared by the analyst based on the company's characteristics (size, growth, profitability etc.). The analyst may also apply a premium/discount based on his perception of the company's specificities.
- 3/ Net asset-based method (NAV): estimation of the value of the equity on the basis of the revalued assets and corrected for the value of the liability.
- 4/ Discounted dividend method: discounted future value of estimated dividend flows and share buybacks. The discount rate applied is generally the cost of capital.
- 5/Sum of the parts: this method consists of estimating a company's different operations by using the most appropriate valuation method for each one, then calculating the sum.

### Recommendation scale:

Buy: expected over-performance above 10% compared to the market within 6 to 12 months

Hold: expected to outperform or under-perform the market within a range of +10% and -10%, within 6 to 12 months

Sell: expected to under-perform the market by more than 10% within 6 to 12 months

### Detection of conflicts of interest:

Company Name	Closing price (€)	Recommendation	Warning
Expert System SpA	€2.99	BUY	G

A LOUIS CAPITAL MARKETS – MCP or any related legal entity holding more than 5% of all of the capital issued by the issuer;  
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### Breakdown of recommendations

As at 01/11/2019, the recommendations issued by the Midcap research team at LOUIS CAPITAL MARKETS – MCP break down as follows:

Recommendation	Covered companies	o/w Sponsored research
Buy	75%	75%
Hold	23%	25%
Sell	2%	0%

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