BRYAN, GARNIER & CO

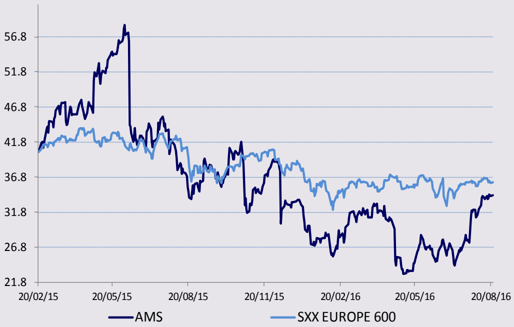
INDEPENDENT RESEARCH

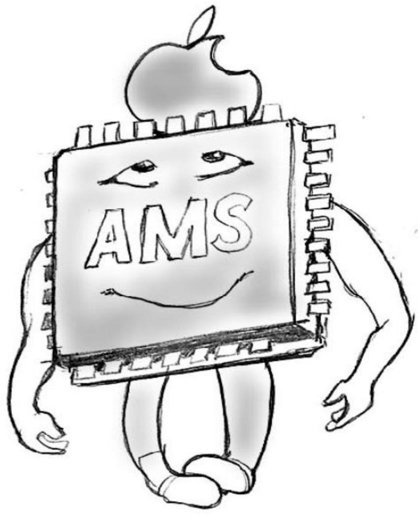
24th August 2016

TMT

Bloomberg	AMS SW
Reuters	AMS.S
12-month High / Low (CHF)	41.9 / 23.0
Market capitalisation (CHFm)	2,511
Enterprise Value (BG estimates CHFm)	2,711
Avg. 6m daily volume ('000 shares)	427.8
Free Float	68.6%
3y EPS CAGR	9.4%
Gearing (12/15)	19%
Dividend yields (12/16e)	1.50%

YE December	12/15	12/16e	12/17e	12/18e
Revenue (EURm)	623.10	582.48	688.19	826.67
EBITA EURm)	147.3	86.9	154.8	219.1
Op.Margin (%)	23.6	14.9	22.5	26.5
Diluted EPS (EUR)	2.08	1.14	1.94	2.73
EV/Sales	3.91x	4.27x	3.37x	2.62x
EV/EBITDA	12.5x	17.0x	10.9x	7.9x
EV/EBITA	16.5x	28.6x	15.0x	9.9x
P/E	15.1x	27.6x	16.2x	11.5x
ROCE	17.0	9.4	16.1	21.5





ams

Catching the ball when it bounces - all a question of timing

Fair Value CHF29 (price CHF34.20)

NEUTRAL
Coverage initiated

For ams, 2016 is likely to see a positive upswing in growth momentum. After a difficult H1 (sales down 17.5% yoy), the group is set to restore growth as of H2 while innovation should lead to high growth potential (>15-20%) as of 2017. However, this improvement in momentum already looks fully valued. We advise waiting for a more attractive entry point and are adopting a Neutral recommendation on the share.

- **Return to growth as of H2 2016.** For Q3, the group is forecasting sales of between EUR146 and 153m, or sequential growth of 10-16%, which looks feasible to us (we are forecasting Q3 2016e sales of EUR153m). In addition, we remain confident in the group's ability to generate growth in H2 2016 sales relative to H1 and the previous year (our forecast is for +5.4% yoy). Indeed, ams should benefit from both advantageous comparison with the year-earlier period and positive seasonal factors with the usual recovery in momentum at the end of the year.

- **Environmental, colour and optical sensors to drive growth as of 2017.** In the product portfolio, three components should restore healthy momentum at ams as of 2017: 1/ True Tone sensors (improvement in autonomy and reading comfort for smartphone screens, 2/ optical sensors (enabling connected bracelets/watches to read heart-beats, blood pressure, cholesterol levels and alcohol levels) and 3/ environmental sensors (temperature, humidity, pressure and quality of air, for the automotive, industry and consumer sectors). In all, we believe that these three components should represent additional sales of almost EUR131m by 2018, bringing the group closer to its target for EUR1bn in sales by 2019e.

- **Fully valued.** The share is currently trading on a 2016e P/E multiple of 27.5x (vs peers of 23.5x), and PEG of 2.9x. As such, despite we anticipate a positive change in the group's momentum, we do not consider the current share price a particularly attractive entry point. In view of the share's high volatility, we advise waiting for a better opportunity.

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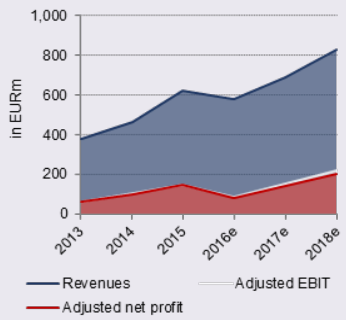
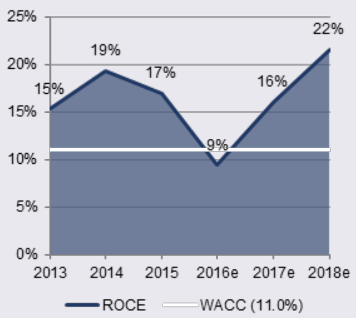
P&L structure



ROCE vs. WACC



Company description

ams AG is an Austrian manufacturer of semiconductors for consumer, medical, industrial and automotive applications. The group is specialized in the production of sensors (light, microphone, ...) as well as more specific components such as integrated NFC solutions or ICs dedicated to noise reduction.

Simplified Profit & Loss Account (EURm)	31/12/13	31/12/14	31/12/15	31/12/16e	31/12/17e	31/12/18e
Revenues	378	464	623	582	688	827
Change (%)	*-2.5%*	*22.9%*	*34.2%*	*-6.5%*	*18.1%*	*20.1%*
Adjusted EBITDA	99.0	143	195	146	213	276
Adjusted EBIT	63.9	105	147	86.9	155	219
EBIT	63.9	105	147	86.9	155	219
Change (%)	*-24.7%*	*65.0%*	*39.8%*	*-41.0%*	*78.2%*	*41.5%*
Financial results	(0.47)	(1.2)	11.7	1.9	6.9	8.3
Pre-Tax profits	63.4	104	159	88.8	162	227
Tax	(2.6)	(6.6)	(10.3)	(5.2)	(19.4)	(27.3)
Net profit	60.8	97.5	149	83.6	142	200
Adjusted net profit	60.8	97.5	149	83.6	142	200
Change (%)	*-25.6%*	*60.4%*	*52.4%*	*-43.8%*	*70.2%*	*40.6%*
Cash Flow Statement (EURm)						
Depreciation & amortisation	35.2	37.3	47.9	59.2	58.2	56.6
Change in working capital	0.04	(11.0)	(22.0)	(66.9)	(5.8)	(28.6)
Operating cash flows	100	130	153	75.4	217	258
Capex, net	(46.5)	(70.1)	(79.8)	(79.2)	(61.9)	(74.4)
Free Cash flow	53.7	60.1	73.1	(3.9)	155	184
Acquisition, net	0.0	0.0	(202)	32.2	32.7	0.0
Financial investments, net	(0.35)	(38.8)	(5.9)	5.6	0.0	0.0
Dividends	(19.4)	(14.1)	(22.8)	(34.6)	(18.9)	(32.2)
Issuance (repurchase) of own shares	4.8	(6.3)	(15.5)	(42.9)	0.0	0.0
Issuance (repayment) of debt	(23.3)	120	62.6	68.4	0.0	0.0
Other	22.8	(120)	(66.4)	(77.6)	0.0	0.0
Net debt	(44.2)	(45.0)	131	184	15.1	(137)
Balance Sheet (EURm)						
Tangible fixed assets	145	204	257	280	284	302
Intangibles assets & goodwill	243	316	582	575	542	542
Investments	5.1	6.5	1.9	2.0	2.0	2.0
Deferred tax assets	33.3	34.1	34.8	34.8	34.8	34.8
Other non-current assets	7.1	7.7	7.0	7.6	7.6	7.6
Cash & equivalents	104	230	144	162	330	482
Inventories	40.5	59.9	79.8	99.3	105	127
Current assets	74.3	97.3	117	155	162	188
Total assets	653	955	1,223	1,315	1,469	1,685
Shareholders' equity	445	556	681	688	833	1,031
Provisions	69.6	91.8	67.2	69.3	71.8	80.5
Deferred tax liabilities	13.6	20.8	104	102	102	102
Current liabilities	65.0	102	95.6	111	116	125
L & ST Debt	60.1	185	275	346	346	346
Total Liabilities	653	955	1,223	1,315	1,469	1,685
Capital employed	400	511	812	872	848	895
Ratios						
Gross margin	52.41	54.53	54.44	53.40	55.50	57.00
Adjusted operating margin	16.90	22.69	23.63	14.91	22.50	26.50
Tax rate	4.06	6.31	6.45	5.85	12.00	12.00
Adjusted Net margin	16.10	21.00	23.86	14.36	20.68	24.20
ROE (after tax)	13.67	17.55	21.82	12.16	17.08	19.40
ROCE (after tax)	15.30	19.33	16.96	9.38	16.06	21.55
Gearing	(9.95)	(8.10)	19.27	26.76	1.81	(13.25)
Pay out ratio	6.13	13.89	14.38	41.35	13.31	16.11
Number of shares, diluted	69.96	71.01	73.41	73.41	73.41	73.41
Data per Share (EUR)						
EPS	4.52	1.43	2.16	1.14	1.94	2.73
Restated EPS	4.35	1.37	2.08	1.14	1.94	2.73
% change	*-28.2%*	*-68.5%*	*51.8%*	*-45.2%*	*70.2%*	*40.6%*
BVPS	6.36	7.83	9.28	9.37	11.35	14.05
Operating cash flows	1.43	1.83	2.08	1.03	2.96	3.52
FCF	0.77	0.85	1.00	(0.05)	2.11	2.51
Net dividend	0.28	0.20	0.31	0.47	0.26	0.44

Source: Company Data; Bryan, Garnier & Co ests.

Table of contents

1. Investment Case

Why the interest now?

The reason for writing now

During the first half of 2016, ams suffered from demanding comparison with H1 2015, which was boosted by Apple. **Comparison is set to become more advantageous as of H2 2016 and momentum should genuinely pick up as of 2017, thanks in particular to new products including colour and environmental sensors and more marginally, optical sensors. However, we believe that the share's current valuation is not an attractive entry point** (our CHF30 FV shows 12% downside risk) and advise waiting for a temporary downturn in the share price.

Cheap or Expensive?

Valuation

Our CHF29 Fair Value stems from the average between a peer comparison (FV CHF29) and a DCF valuation (FV CHF29 with WACC of 11.0%). On the basis of our estimates, **the share is trading on 2016 P/E of 27.5x and PEG of 2.9x.**

When will I start making money?

Catalysts

Like Dialog, **ams is highly exposed to the consumer electronics sector** (generally around 65% of sales) and especially smartphones. Although the segment is currently suffering a slowdown in growth, we expect momentum to pick up on a qoq basis primarily in view of the production start for the next iPhone and the increase in production volumes for the year-end festivities for all OEMs. Over the medium term, the group's strengthened portfolio should provide a source of growth, visible as of 2017e.

What's the value added?

Difference from consensus

The consensus is factoring in average sales growth of 8.4% over 2016/2018e (vs. a 2013-15 CAGR of +17%). We are forecasting better top-line momentum, or average growth of 9.9% over the next three years. This is also found in our EPS growth estimates which work out to 9.4% (CS ests. +5.0%).

Could I lose money?

Risks to our investment case

ams is active in a market environment particularly sensitive to **macro-economic momentum**, and this could have a negative or positive impact on our estimates. Furthermore, the group is highly exposed to the consumer segment (around 65% of sales), which is **particularly volatile and competitive** such that our estimates can be positively or negatively affected by factors independent of the group's performances.

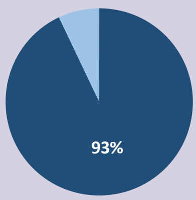
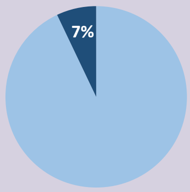
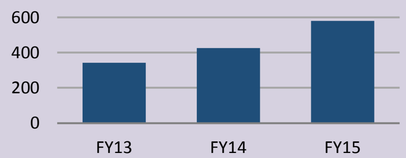
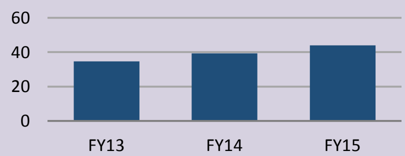
2. Snapshot of the group

ams AG is an Austrian group specialised in analogue sensor production.

The group is particularly well known for its light sensors used in smartphones or its very upscale photographic sensors.

ams AG is an Austrian group specialised in analogue sensor production. The group targets a wide range of applications including **consumer** electronic devices (Internet of Things, smartphones and IT), which usually represent around **65% of sales** (BG ests.), the **industrial (BG ests. ~15% of sales)**, **medical (BG ests. ~10% of sales)** and **automotive sectors (BG ests. ~10% of sales)**. The group focuses primarily on production of CMOS-style sensors (around 75% of sales), namely those using design/manufacturing procedures similar to those used for digital chips. ams is particularly well known for its light sensors used in smartphones or its very upscale photographic sensors. The remaining sales are generated by other components such as connectivity chips. Finally, ams also has a foundry services business. Since the group is an IDM, it makes available its unused capacity and its expertise for other industry players. This activity remains a minority for the group representing around 7% of 2015 sales.

Fig. 1: A specialist in CMOS sensors

	Products	Foundry services
% of sales		
Revenue momentum	CAGR 2012/2015: +17% 	CAGR 2012/2015: +16% 
Key products	- Ambient Light sensors - Environmental sensors - NFC Booster - Wireless connectivity	- Specialty analog foundry services - Focus on "More than Silicon" production - Medical and Automotive certified production
Key customers (examples)	- Apple - Samsung - Huawei - Lenovo	- Sarda Technologies - Other fabless companies
Key catalysts	- New design win in high volume device - Technology innovations	- New contract with Fabless - High volume manufacturing
Strong sensitivity to	- Macro economic conditions - Main customer traction - Customer's product success	- Macro economic conditions - Fabless demand - Technology portfolio and innovations
Competitors	- STMicroelectronics - NXP - Broadcom - ROHM Semiconductor - Intersil	- X-Fab - Qorvo (TriQuint) - TowerJazz - VIS

Source: Bryan, Garnier & Co ests.

3. Improving fundamentals

ams has long managed to make the most of the impressive growth enjoyed in the smartphones market but the group has suffered recently from the slowdown in smartphone sales and the share has been harshly penalised by the market

ams has long managed to make the most of the impressive growth enjoyed in the smartphones market. The group has managed to innovate and offer components that are now indispensable for these devices, especially light sensors. Thanks to its expertise in the design of CMOS sensors, ams has developed sensors that are reliable, energy saving, small (very important given that a large number of sensors need to be included in ever-slimmer phones) and affordable (average price of USD0.50 for light sensors for example).

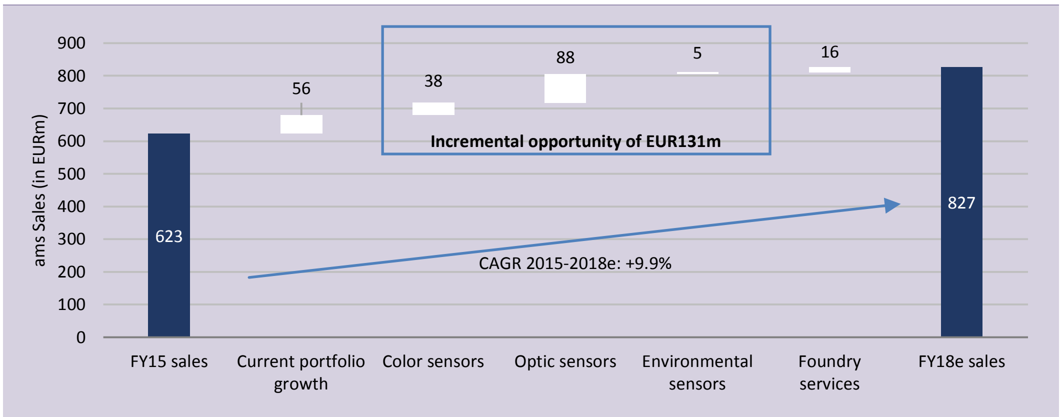
Like Dialog (Buy, FV EUR37), ams has suffered recently from the slowdown in smartphone sales and the share has been harshly penalised by the market (-41% since peak level of CHF58.45 reached in June 2015). The market is now waiting for new catalysts and we believe that ams has all the right ingredients in place for a rebound.

Nevertheless, the smartphone sensors market is not dead and ams should benefit from the extension in its product portfolio.

- **The smartphone sensors market is not dead:** on the basis of average growth of 0.6% in the mobiles market (including Feature-Phones and smartphones excluding tablets) between 2015 and 2018e, Yole Développement is forecasting **average growth in the sensors market of 10.3%, driven by 1/ an increase in the number of sensors per device** (volumes up 7.4% over 2015-2018e) and **2/ a higher average unit price prompted by sensors** (ASP up 2.7% over 2015-2018e on the back of a mix effect, with an average unit decline in sensor prices of 4%). We believe that ams is capable of generating average growth of 3% a year in its current product portfolio (including innovations in development for existing products).

- **ams should benefit from the extension in its product portfolio:** in our view, the group's current R&D programmes and the acquisition in June 2016 of CCMOSS (Cambridge CMOS Sensors) offer attractive prospects that are not currently reflected group's momentum. We also expect a year of transition in 2016, but believe that these new products could create additional opportunities visible in the group's sales as of 2017.

Fig. 2: Growth boosted by new applications



Source: Bryan, Garnier & Co. ests.

In all, our scenario shows average sales growth of 9.9% over 2015-2018e.

3.1. New opportunities to activate as of 2017

The group currently boasts a comfortable positioning in large volume devices. For example, ams' light sensors are found in smartphones, tablets and Apple and Samsung smartwatches. For these two players, we estimate the group delivers premium products with an ASP of around USD0.60. For these components, the group bills its "through-silicon-via" technology, which helps reduce the thickness of the component and ease its integration, especially for devices such as the smartwatch. In 2015, we estimate that revenues derived from sales to Apple were close to EUR125m (around 230m units at an average selling price of USD0.60), or around 20% of the group's total sales. Concerning Samsung, we believe that sales are close to EUR60m (around 110m units at an SAP of USD0.60).

Beyond these two tier 1 players, the group's other clients remain diversified since the aggregate of the top 10 group clients represents around 50% of sales. As an example, ams has been selected by other Asian players such as Huawei and Lenovo. However, we estimate the products delivered to these Asian OEMs have a lower ASP of closer to USD0.50.

Since the disappearance of ams' NFC booster in iPhones (iPhone 6 and 6 Plus), ams is only present in large volume devices via its light sensors. However, we have identified in its product portfolio and R&D programmes, technologies which have a high chance of being adopted almost systematically in consumer equipment.

Fig. 3: **New ams products: EUR134m in sales out to 2018e**

[in EURm]		**2018e**
Color (RGB) sensors	Volumes (in million)	123
	ASP (in USD)	0.78
	Market share	45%
	Incremental revenues (in EURm)	**38**
Optical (Bio) sensors	Volumes (in million)	115
	ASP (in USD)	1.24
	Market share	70%
	Incremental revenues (in EURm)	**88**
Environmental sensors	Volumes (in million)	79
	ASP (in USD)	0.20
	Market share	35%
	Incremental revenues (in EURm)	**5**
Total of incremental opportunities		**131**

Sources: Yole Développement ; Bryan, Garnier & Co ests.

- **Among the technologies we have identified are colour sensors (RGB/True Color)**, which help improve consumption and comfort of smartphone screens. These components fit perfectly with the technological development of smartphones and tablets. **Indeed, it is this type of component that is currently embedded on the iPad Pro for its True Tone function.** According to Apple, "[…] the new iPad Pro 9.7-inch screen is equipped with True Tone technology. Thanks to four channel ambient light sensors, it automatically adapts the screen's colour and intensity to the surrounding level of clarity". Since iPads generally integrate iPhone functionalities upstream, it is highly likely that this technology will be adopted by at least one high volume device in the near future. As such, on the basis of a 2018e ASP of USD0.78 for this type of sensor and volumes of slightly more than 120m units (source Yole Développement), 45% of which captured by ams (bearing in mind that the main rivals are Intesil and Maxim), **we value the opportunity at almost EUR38m for ams**.

- **Beyond improved light sensors, the group is currently extending its portfolio with new optical sensors.** ams currently offers a module (AS7000) capable of measuring precisely certain variables such as heart beat, body temperature and electrodermal activity (stress, intense effort etc.). Whereas fitness bands are continuing to penetrate the market, their usage and reliability remains limited by the number and type of sensor available. By extending its portfolio of sensors, ams is providing itself the means to 1/ strengthen its positions in this high-growth segment (78m units, +172% in 2015 according to ICD), 2/ distance its rivals in technological terms, and 3/ increase its revenues by extending its total addressable market (TAM). Based on ASP of USD1.24 and volumes close to 60m units by 2018 (source Yole Développement), 70% of which captured by ams (the only competitor currently on this type of sensor is Maxim), **we estimate that these new sensors should provide an additional EUR88m for the group by 2018.**

- **Finally, we believe the group should soon benefit from its environmental sensors, especially gas sensors.** By associating metallic oxide gas sensors already present in ams' portfolio and the recently acquired technologies of Cambridge CMOS Sensors, the group has all the elements necessary to create a new type of gas sensor capable of detecting carbon monoxide, nitrogen oxide and the quantity of volatile organic components in the air. This environmental sensor market is virtually non-existent today, although we have identified high demand for this type of component especially from the auto sector where the sensors could provide very precise and real-time readings of vehicle pollution. In the industrial sector, applications are also numerous, from measuring the quality of air in a white room to control and safety devices in plants using toxic gases. In the consumer segment, these sensors could also find a place in specific equipment (domestic weather stations, connected thermostats etc.) or in mobile devices, especially connected bracelets and watches in order to add additional information to health data collected by this equipment. **Note nevertheless that these sensors are sold at far lower prices than the group's two other sensors, since their ASP is likely to be close to USD0.20 in 2018e, or an incremental opportunity of EUR5m for ams based on 79m units sold in 2018 (source Yole Développement) with 35% captured by ams.**

3.2. CMOSIS, a long-term future growth source

CMOSIS has developed very high quality sensors enabling it to win markets with the largest names in the image industry, in particular the prestigious group Leica.

ams acquired CMOSIS in 2015 in an operation aimed primarily at stepping up the acquisition of expertise in the image sensors field. **This small Belgian company with 40 employees has developed very high quality sensors enabling it to win markets with the largest names in the image industry, in particular the prestigious group Leica.** In our view, this acquisition should pay off, but only over the medium term.

Nevertheless, in our view, this acquisition should pay off, but only over the medium term.

Image sensors are a fairly dense market, so much so that it needs to be segmented itself in terms of sensor quality and complexity. In all, the market is worth USD10.35bn (source Yole Développement, May 2016), bearing in mind that smartphones account for two-thirds of the market (USD6.7bn for four billion units) and that growth in the segment should remain significant.

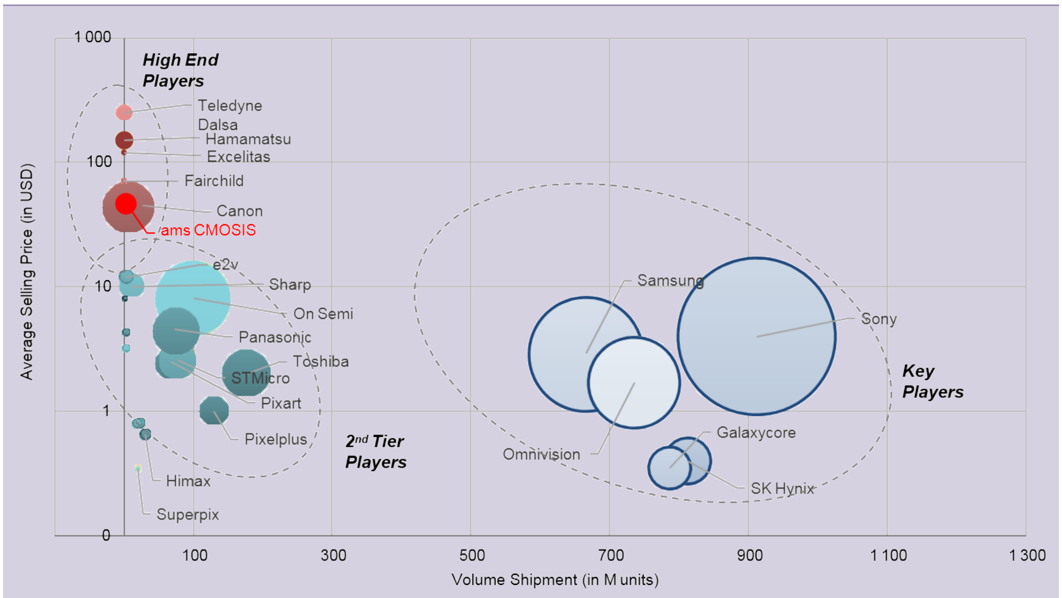
Fig. 4: Growth of 10% in the image sensors market

[in USDm]	2014	2015	CAGR 2015-2021
Mobile	5,908	6,665	+12%
Consumer	1,611	1,401	+1%
Computing	1,187	1,052	-3%
Automotive	279	537	+23%
Medical	29	34	+15%
Security	140	388	+11%
Industrial / Space / Defense	146	271	+10%
Total	**9,300**	**10,348**	**+10.4%**

Sources: Yole Développement; Bryan, Garnier & Co ests.

The acquisition of CMOSIS means ams can focus solely on niche markets and especially very upscale sensors. **It does not compete with high volume manufacturers such as Sony and Samsung but with specialists such as Canon, Fairchild and Teledyne in niche markets.** CMOSIS' sensors are therefore not found in smartphones but more in very high-end cameras or professional equipment. For example, CMOSIS sensors are used for medical research and endoscopic cameras.

Fig. 5: ams focuses on sensors sold for more than USD50



Sources: Yole Développement; Bryan, Garnier & Co ests.

With the acquisition of CMOSIS, we believe ams' strategy is to associate the two groups' expertise and to create new generations of image sensors.

With the acquisition of CMOSIS, we believe ams' strategy is to associate the two groups' expertise and to create new generations of image sensors. In particular, we expect the emergence of very small and very high speed sensors (>50 images a second) destined to equip autonomous vehicles, industrial robots and medical devices. Market analysis company Yole Développement estimates the auto segment could become the second-largest image sensor consumer after smartphones, as of 2017. This represents high growth that would lead to all vehicles embedding USD100-200 worth of image sensors by 2020 (up to four per vehicle).

If the group manages to 1/ merge the two groups' R&D expertise in CMOS sensors and 2/ leverage its know-how in terms of production, **we believe ams will have all the right ingredients at hand to develop image sensors that are specific to the auto, industrial and medical sectors.**

Logic is high for these products to become a core part of ADAS systems. The technologies developed for CMOSIS sensors could significantly improve the performance of driver assistance systems (better reactivity) whereas the group's expertise in miniaturisation could also provide a considerable advantage in terms of integrating these models into the vehicle or industrial robots design. In addition, with a small form factor, these sensors should also see a strong momentum for medical applications such as devices such as endoscopes.

So far no announcements have been made concerning these products and although their existence makes sense, we have included no revenues from these sensors in our estimates. However, they provide a fairly clear idea of the group's potential beyond the prospects identified for 2017/2018e (see previous section) and provide the group an attractive source of diversification within the auto, industrial and medial sectors which is currently driving growth in the industry.

4. Our scenario

4.1. P&L: 9% average EPS growth over 2015/18e

Our model shows a change in growth in 2016. We believe the group is going through a year of transition before restoring better momentum as of 2017. As such, despite the decline expected during 2016, we estimate average sales growth over 2015/18e of 9%.

Our model shows a change in growth in 2016. In addition, we expect margins to improve after hitting a low point in 2016e

In addition, we expect margins to improve after hitting a low point in 2016e (15% EBIT margin in 2016e vs. 24% in 2015), primarily on the back of higher volumes as of 2017 while 2016 remains penalized by low volumes. Indeed, since ams is not a fabless player, it needs to fill its plants in order to enable them to generate comfortable margins, without which the group suffers from high fixed costs.

We would also point out that among the three IDMs we cover (ams, Infineon and STMicroelectronics), ams is the one that manages to generate the highest EBIT margin, ahead of Infineon (around 15%).

Fig. 6: ams generates the highest EBIT margin among IDM in our coverage

Operating margin per company	2013	2014	2015	2016e	2017e	2018e
Infineon	9.8%	14.4%	15.5%	15.9%	17.1%	18.0%
STMicroelectronics	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%
ams	**16.9%**	**22.7%**	**23.6%**	**14.9%**	**22.5%**	**26.5%**

Source: Bryan, Garnier & Co ests.

In the shorter term, we expect a return to growth as of H2 2016. The group should benefit from market share gains with the start of a new growth cycle and therefore develop positively in a difficult environment. For Q3, we expect sequential growth at the high end of the group's guidance namely of 15.3% and a gross margin of 53.1%, which is 30bp lower than the margin gross reached in Q2 2016. Overall, our sales estimates for 2016 (-7% sales growth) and BPA (BPA 2016e BG ests. EUR1.14) are lower than consensus (CS ests 2016e sales -4.6%, 2016e EPS: EUR1.36).

Fig. 7: Average EPS growth estimate for 2015/18e of 9%

[in EURm]	2015	1Q16	2Q16	3Q16e	4Q16e	2016e	2017e	2018e	CAGR 15/18e
Sales	**623**	**137**	**132**	**153**	**160**	**582**	**688**	**827**	**9.9%**
Seq. growth	34%	-7%	-4%	15%	5%	-7%	18%	20%	
Gross profit	**339**	**74**	**71**	**81**	**85**	**311**	**382**	**471**	
Gross margin	54%	54%	53%	53%	53%	53%	56%	57%	
R&D	-108	-33	-32	-37	-37	-139	-134	-145	
% of sales	-17%	-24%	-24%	-24%	-23%	-24%	-20%	-18%	
G&A	-94	-24	-25	-23	-24	-96	-100	-116	
% of sales	-15%	-17%	-19%	-15%	-15%	-16%	-15%	-14%	
Other op. income	8	2	2	2	2	8	7	8	
% of sales	1%	2%	2%	1%	1%	1%	1%	1%	
EBIT	**147**	**20**	**17**	**23**	**27**	**87**	**155**	**219**	**14.2%**
Operating margin	24%	14%	13%	15%	17%	15%	23%	27%	
Financial result	12	-5	4	2	2	2	7	8	
% of sales	2%	-4%	3%	1%	1%	0%	1%	1%	
Income Tax	-10	-1	-1	-1	-2	-5	-19	-27	
Income tax rate	-6%	-5%	-6%	-6%	-6%	-6%	-12%	-12%	
Net Profit	**149**	**14**	**20**	**23**	**27**	**84**	**142**	**200**	
Net margin	24%	10%	15%	15%	17%	14%	21%	24%	
Dil. EPS	**2.08**	**0.21**	**0.28**	**0.32**	**0.37**	**1.14**	**1.94**	**2.73**	**9.4%**
EPS seq. growth	52%	-51%	33%	14%	15%	-45%	70%	41%	

Source: Bryan, Garnier & Co ests.

4.2. Balance sheet set to improve in H2 2016e

Fig. 8: FCF generation equivalent to around 50% of NP or 10% of sales

[in EURm]	2015	1Q16	2Q16	3Q16e	4Q16e	2016e	2017e	2018e	CAGR 15/18e
EBITDA	**195**	**35**	**32**	**38**	**41**	**146**	**213**	**276**	
Change in WCR	-22	-22	-22	-17	-6	-67	-6	-29	
Other	-20	-6	-3	2	2	-4	10	11	
Cash flow from operating activities	153	7	7	23	37	75	217	258	
Capex	-80	-22	-23	-17	-18	-79	-62	-74	
Free Cash Flow	**73**	**-14**	**-16**	**6**	**20**	**-4**	**155**	**184**	**36.0%**
Acquisitions	-202	0	-38	70	0	32	33	0	
Other	-6	5	0	0	0	6	0	0	
Cash flow used for investing activities	-287	-16	-60	53	-18	-41	-29	-74	
Proceeds of LT & ST debt	209	46	29	0	0	75	0	0	
Dividend payment	-23	0	-35	0	0	-35	-19	-32	
Other	-162	-17	-33	0	0	-50	0	0	
Cash flow from financing activities	24	29	-38	0	0	-9	-19	-32	
Total Cash flow	-110	20	-91	76	20	25	169	152	
CTA (Cumulative translation adj.)	10	-5	2	0	0	-3	0	0	
Net increase in cash	-100	16	-89	76	20	22	169	152	
Cash at beginning of period	204	104	119	30	106	104	126	295	
Cash at end of period	**104**	**119**	**30**	**106**	**126**	**126**	**295**	**446**	**62.7%**

Source: Bryan, Garnier & Co ests.

In 2015, the group generated FCF of EUR73m, the equivalent of 50% of its net profit or slightly more than 10% of sales. This cash generation profile should change in 2016.

Concerning 2016e capex, we are forecasting close to EUR80m. We expect an improvement in cash as of H2, with H1 remaining penalised by the dividend payment (EUR0.51 per share) and higher capex in H1 compared with the rest of the year.

At the end of Q2 2016, the group had net debt of EUR280m, pointing to gearing of 44% bearing in mind the group's recent acquisition of MAZeT (a company specialised in colorimetric and spectometric sensors) and the disposal of its NFC and RFID businesses to STMicroelectronics. The latest operation should help ams to improve its cash position by about EUR70m in Q3 leading us to expect net debt of EUR204m by the end of Q3. In view of prospective cash generation over full year in 2016, we are forecasting a decline in net debt to stand at EUR184m at end-2016e or gearing of 27%, and a net debt/EBITDA ratio of 1.3x (vs. 0.7x en FY15).

5. Potential already fully valued

5.1. We have a Neutral recommendation

Our Fair Value of CHF29 stems from an equi-weighted average between a DCF valuation and peer comparison and points to a downside potential of 15%

Our Fair Value of CHF29 stems from an equi-weighted average between a DCF valuation and peer comparison. In view of the share's low upside, we have adopted a Neutral recommendation on the share.

Fig. 9: **Overview of our valuation methods**

Method	Weight	FV (in CHF)	Upside
Peer group	50%	29	-15%
DCF	50%	29	-16%
Average valuation	**100%**	**29**	**-15%**

Source: Bryan, Garnier & Co.

5.2. DCF valuation of CHF29

Our DCF valuation is based on the following assumptions:

- **Our base scenario, set out in section 4, including estimates out to 2018e.** As for the majority of semiconductors players that we cover, we have applied a cyclical growth scheme over the normalised period from 2019e to 2024e, with the same characteristics as the previous cycle. As such, for 2019e, we have applied a growth rate of 20% (equivalent to a peak cycle growth rate over the past five years) followed by a linear reduction in this rate over the period, in order to move towards our terminal growth rate of 3%. Over 2016-25e, this scenario shows average growth of 12% with a usual cyclical growth scheme for the sector (vs. a CAGR of 17.1% over 2012-15). Note that this scenario does not include eventual positive effects triggered by the acquisition of CMOSIS.

- **We have assumed average underlying EBIT margin of 21% over 2016/25e**, which is the margin in our 2015/18e scenario, followed by a linear decrease as of 2020e towards our long-term underlying EBIT margin of 16%. This is the also the minimum margin level noted over the past five years.

- **WCR in line with sales growth and remaining at a level close to 12.4% of sales over the entire period.**

- **Investment spending equivalent to 9% of sales over the entire period.**

- **A corporate tax rate close to 12% corresponding to ams' normal average tax rate, which is low in view of** 1/ tax-loss carry-forwards (around EUR32m at end-2015), 2/ low tax rates unlocked by the group's international activities and 3/ tax credits (primarily for R&D).

- **WACC of 11.0%**. We have applied a beta of 1.4x (which compares with a beta of 1.6x used in Dialog's valuation), a risk-free rate of 1.6% and a market risk premium of 7.0%. At the end of 2015, the group had net debt of EUR131m (4% net interest rate).

Fig. 10: WACC of 11.0%

WACC	
European risk-free interest rate	1.6%
Equity risk premium	7.0%
Beta	1.4
Return expected on equity	**11.4%**
Interest rate on debt	4.0%
Market Capitalization (EURm)	2,303
Net debt on 31/12/15 (EURm)	**131**
Entreprise value (EURm)	2,435
WACC	**11.0%**

Source: Bryan, Garnier & Co. ests.

Fig. 11: DCF, a FV of CHF29, or downside potential of 16%

in EURm (FYE 31/12)	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Revenues	**582**	**688**	**827**	**994**	**1,172**	**1,352**	**1,526**	**1,685**	**1,819**	**1,918**
Change (%)	*-6.5%*	*18.1%*	*20.1%*	*20.3%*	*17.8%*	*15.4%*	*12.9%*	*10.4%*	*7.9%*	*5.5%*
Adjusted EBIT	**87**	**155**	**219**	**264**	**290**	**310**	**323**	**326**	**320**	**303**
Adjusted operating margin	*14.9%*	*22.5%*	*26.5%*	*26.5%*	*24.7%*	*22.9%*	*21.1%*	*19.4%*	*17.6%*	*15.8%*
Tax	-5	-19	-27	-32	-35	-37	-39	-39	-38	-36
Tax rate	*5.8%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
Net Operating income after tax	**82**	**135**	**192**	**232**	**255**	**273**	**284**	**287**	**281**	**266**
Capex, net	-79	-62	-74	-90	-105	-122	-137	-152	-164	-173
As a % of sales	*13.6%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*
Depreciation & amortisation	59	58	57	90	105	122	137	152	164	173
As a % of sales	*10.2%*	*8.5%*	*6.9%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*
WCR	68	74	102	123	145	167	189	208	225	237
As a % of sales	*11.6%*	*10.7%*	*12.4%*	*12.4%*	*12.4%*	*12.4%*	*12.4%*	*12.4%*	*12.4%*	*12.4%*
Change in working capital	-67	-6	-29	-21	-22	-22	-22	-20	-17	-12
Free cash flows	**-5**	**126**	**145**	**211**	**233**	**250**	**262**	**267**	**265**	**254**
Discounted free cash flows	**-5**	**109**	**114**	**149**	**148**	**144**	**135**	**124**	**111**	**96**

Total discounted FCF - 2016e-2025e	1,126
Discounted Terminal value - 2026e	1,040
Enterprise value	**2,166**
- Provision (incl. pension plan)	41
- Net debt on 31/12/2016e	184
Equity value	**1,941**
Nbr of diluted shares (m)	73.409
Valuation per share (EUR)	**26**
Valuation per share (CHF)	**29**
Upside vs. current share price	-16%

		WACC				
	[in CHF]	10.0%	10.5%	11.0%	11.5%	12.0%
Op. margin	12%	29	27	26	24	23
	13%	31	29	27	25	24
	14%	33	30	**28**	26	25
	15%	34	32	30	28	26
	16%	36	33	31	29	27

Source: Bryan, Garnier & Co.

5.3. Peer comparison of CHF29

For our peer comparison of ams, we have created a sample including only integrated manufacturers (IDM), namely groups operating a similar business model (production carried out internally). We have taken the average of three multiples: 12m forward EV/Sales, 12m forward EV/EBIT and 12m forward P/E.

Fig. 12: Breakdown of our sample of peers

Company	Business model	EV/Sales 12m fwd	EV/EBIT 12m fwd	P/E 12m fwd
ams	IDM	**3.0x**	**14.6x**	**17.6x**
ANALOG DEVICES	IDM	4.9x	14.4x	19.8x
CYPRESS SEMICON.	IDM	2.2x	15.2x	16.8x
INFINEON TECHS. (XET)	IDM	2.2x	14.6x	18.8x
INTERSIL 'A'	IDM	3.1x	13.8x	20.8x
MAXIM INTEGRATED PRDS.	IDM	4.2x	13.2x	20.3x
MICROCHIP TECH.	IDM	4.1x	14.2x	17.2x
NXP SEMICONDUCTORS	IDM	3.3x	11.7x	12.8x
STMICROELECTRONICS (PAR)	IDM	0.8x	14.8x	22.4x
TEXAS INSTRUMENTS	IDM	5.0x	14.1x	21.6x
Group average	-	**3.3x**	**14.0x**	**18.9x**
ams premium(discount)	-	**-9%**	**4%**	**-7%**

Sources: Thomson Reuters I.B.E.S.; Bryan, Garnier & Co. ests.

Comparison of peer multiples points to a valuation for ams of CHF29, or downside of 15%.

Fig. 13: Peer comparison: FV of CH29 or downside potential of 15%

Multiple	Peer average	Implied ams valuation (in CHF)
EV/Sales 12m fwd	3.3x	29
EV/EBIT 12m fwd	14.0x	24
P/E 12m fwd	18.9x	34
Average		**29**
Upside vs. current share price		-15.0%

Source: Bryan, Garnier & Co. ests.

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Stock rating

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SELL Negative opinion for a stock where we expect an unfavourable performance in absolute terms over a period of 6 months from the publication of a recommendation. This opinion is based not only on the FV (the potential downside based on valuation), but also takes into account a number of elements that could include a SWOT analysis, momentum, technical aspects or the sector backdrop. Every subsequent published update on the stock will feature an introduction outlining the key reasons behind the opinion.

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