INDEPENDENT RESEARCH

21st July 2016

TMT

u-blox

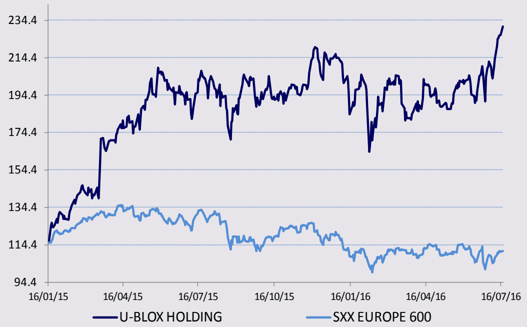
Not to miss the eCall

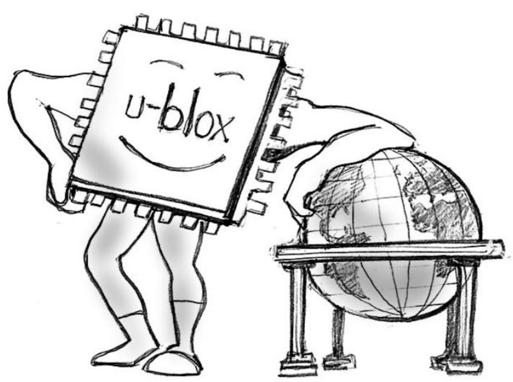
Fair Value CHF265 (price CHF228.50)

BUY
Coverage initiated

Bloomberg	UBXN SW
Reuters	UBXN.S
12-month High / Low (CHF)	231.1 / 164.0
Market capitalisation (CHFm)	1,555
Enterprise Value (BG estimates CHFm)	1,485
Avg. 6m daily volume ('000 shares)	22.50
Free Float	68.6%
3y EPS CAGR	29.5%
Gearing (12/15)	-26%
Dividend yields (12/16e)	0.75%

YE December	12/15	12/16e	12/17e	12/18e
Revenue (CHFm)	338.34	404.54	500.64	635.15
EBITA CHFm)	51.3	59.9	73.1	98.4
Op.Margin (%)	15.2	14.8	14.6	15.5
Diluted EPS (CHF)	5.45	6.86	8.60	11.82
EV/Sales	4.40x	3.67x	2.95x	2.33x
EV/EBITDA	19.6x	16.7x	13.5x	10.7x
EV/EBITA	29.1x	24.8x	20.2x	15.0x
P/E	41.9x	33.3x	26.6x	19.3x
ROCE	21.8	21.8	23.0	25.3





u-blox is a Swiss company specialised in signal receivers for global navigation satellite systems and wireless connectivity chips for the automotive and industrial sectors. This niche market positioning enables the group to maintain a technological edge, market share gains and a robust growth. In view of management's execution history and the group's buoyant positioning, we are forecasting average EPS growth of 30% over the next three years, pointing to a PEG of 1.1x. Our valuation of CHF265 per share yields an upside potential of 16% and therefore we adopted a Buy recommendation.

- **A technological lead of more than one year over rivals.** The group has been specialised niche segment of positioning and communication chips for automotive for more than a decade and maintains a technological lead of more than a year relative to its rivals. This is reflected in both constant innovations within the product portfolio and advanced integration of the various chips within modules, as well as faultless execution in production, enabling the group to benefit from an excellent reputation in the automotive sector, which is one of the hardest to penetrate.

- **Robust growth on the cards and high quality accounts.** Thanks to its specialisation and the quality of its products, u-blox is continuing to win market share. As such, we expect sales growth of 23% on average over the next three years, in line with the group's historical growth (2012-15 CAGR of +23%). In addition, the fabless model adopted by the group enables it to benefit from good control on operating expenses and optimise its cash generation profile with FCF equivalent to 9.4% of sales and 85.6% of net profit. In all, the balance sheet is also solid with a net cash position of EUR70m.

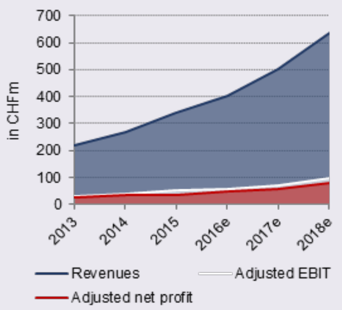
- **Still attractively valued.** The share is currently trading at 33.3x prospective 2016e earnings, which should be seen in the light of average EPS growth of 30% over the next three years, or PEG of 1.1x. In addition, our DCF-derived FV of CHF265 points to upside potential of 16%. In this context, we have adopted a Buy recommendation on u-blox.

Bryan Garnier : Semiconductors Looking for lost growth

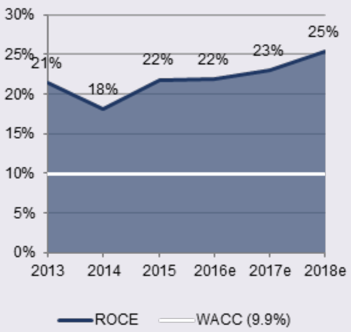
Analyst:
Dorian Terral
33(0) 1.56.68.75.92
dterral@bryangarnier.com

Sector Analyst Team:
Richard-Maxime Beaudoux
Thomas Coudry
Gregory Ramirez

P&L Structure



ROCE vs. WACC



Company description

u-blox is a swiss company, provider of wireless and positioning semiconductors and modules for the automotive, industrial and consumer markets. The group holds a strong position in the positioning market, alongside with big names such as Qualcomm and Broadcomm and continues to gain market shares. The strong momentum allowed to group to generate an average EPS growth of 22% over the 5 last years.

Simplified Profit & Loss Account (CHFm)	**31/12/13**	**31/12/14**	**31/12/15**	**31/12/16e**	**31/12/17e**	**31/12/18e**
Revenues	220	270	338	405	501	635
Change (%)	*27.0%*	*22.9%*	*25.3%*	*19.6%*	*23.8%*	*26.9%*
Adjusted EBITDA	46.2	58.6	76.0	89.0	110	138
Adjusted EBIT	30.1	39.1	51.3	59.9	73.1	98.4
EBIT	30.1	39.1	51.3	59.9	73.1	98.4
Change (%)	*30.4%*	*30.0%*	*31.3%*	*16.7%*	*22.1%*	*34.7%*
Financial results	(1.2)	3.9	(3.7)	0.40	1.5	4.1
Pre-Tax profits	28.9	43.0	47.6	60.3	74.6	103
Tax	(4.2)	(8.6)	(10.5)	(13.6)	(16.0)	(22.1)
Net profit	24.6	34.4	37.1	46.7	58.6	80.5
Adjusted net profit	24.6	34.4	37.1	46.7	58.6	80.5
Change (%)	*43.2%*	*39.6%*	*7.9%*	*25.9%*	*25.4%*	*37.5%*
Cash Flow Statement (CHFm)						
Depreciation & amortisation	16.1	19.5	24.7	29.1	36.5	39.4
Change in working capital	(6.6)	(2.1)	(4.9)	(7.6)	(11.1)	(15.5)
Operating cash flows	38.5	53.7	74.7	67.8	82.5	100
Capex, net	(33.7)	(33.6)	(42.9)	(50.6)	(62.6)	(79.4)
Free Cash flow	4.8	20.1	31.7	17.2	20.0	20.9
Acquisition, net	0.0	(37.6)	(0.36)	0.0	0.0	0.0
Financial investments, net	0.05	5.8	9.9	0.0	0.0	0.0
Dividends	(6.4)	(8.5)	(10.7)	(11.7)	(14.6)	(20.1)
Issuance (repurchase) of own shares	4.9	3.6	5.3	0.0	0.0	0.0
Issuance (repayment) of debt	(3.3)	19.9	40.0	0.0	0.0	0.0
Other	2.7	(24.4)	(50.5)	0.0	0.0	0.0
Net debt	(60.6)	(39.4)	(64.8)	(70.3)	(75.6)	(76.4)
Balance Sheet (CHFm)						
Tangible fixed assets	13.8	14.8	14.7	(4.3)	(28.3)	(51.8)
Intangibles assets & goodwill	82.4	128	145	185	235	299
Investments	1.2	0.58	0.68	0.68	0.68	0.68
Deferred tax assets	6.8	4.8	6.9	6.9	6.9	6.9
Other non-current assets	0.0	0.0	0.0	0.0	0.0	0.0
Cash & equivalents	60.6	59.4	124	130	135	136
Inventories	22.7	33.3	37.4	44.7	55.3	70.1
Current assets	39.1	60.4	58.4	68.7	83.7	105
Total assets	227	302	387	431	488	565
Shareholders' equity	180	213	248	283	325	382
Provisions	6.1	13.4	17.9	21.4	26.5	33.7
Deferred tax liabilities	4.6	5.8	6.1	6.1	6.1	6.1
Current liabilities	35.4	49.7	55.2	61.7	71.1	84.3
L & ST Debt	0.0	20.0	59.3	59.3	59.3	59.3
Total Liabilities	227	302	387	431	488	565
Capital employed	120	173	184	213	250	305
Ratios						
Gross margin	46.02	45.45	45.82	44.80	44.60	44.50
Adjusted operating margin	13.67	14.47	15.16	14.80	14.60	15.50
Tax rate	14.64	19.94	22.08	22.50	21.50	21.50
Adjusted Net margin	11.21	12.74	10.96	11.55	11.70	12.68
ROE (after tax)	13.66	16.16	14.94	16.51	18.00	21.10
ROCE (after tax)	21.40	18.03	21.77	21.82	22.98	25.32
Gearing	(33.56)	(18.50)	(26.08)	(24.85)	(23.25)	(20.02)
Pay out ratio	25.15	23.65	27.61	23.97	23.97	23.97
Number of shares, diluted	6.57	6.81	6.81	6.81	6.81	6.81
Data per Share (CHF)						
EPS	3.86	5.27	5.68	7.15	8.97	12.33
Restated EPS	3.75	5.05	5.45	6.86	8.60	11.82
% change	*37.9%*	*34.6%*	*7.9%*	*25.9%*	*25.4%*	*37.5%*
BVPS	27.48	31.26	36.46	41.55	47.78	56.04
Operating cash flows	5.86	7.88	10.96	9.96	12.12	14.73
FCF	0.73	2.95	4.66	2.53	2.93	3.07
Net dividend	0.97	1.25	1.57	1.71	2.15	2.96

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

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1. Investment Case

Why the interest now?

The reason for writing now

u-blox is little known to investors although it is a very interesting player in our view. We believe that 1/ **consensus expectations are overly cautious** in view of market prospects and the group's historical performances and 2/ **its still-attractive valuation is an opportunity to grasp (our FV points to an upside potential of 16%). We are initiating u-blox with a Buy recommendation**

Cheap or Expensive?

Valuation

Our Fair Value of CHF265 stems from a DCF valuation (WACC of 10.0%). Based on our estimates, **the share is trading on 2016e EV/EBIT of 24.8x and 2016e P/E of 33.3x. These are ratios that must be put in relation to a strong growth in EPS (CAGR 2015/2018e on EPS of 30%) externalizing a PEG of 1.1x.**

When will I start making money?

Catalysts

u-blox is active in a rapidly expanding niche market. Growth is driven by changes in vehicle production volumes and the constantly rising adoption of communication and positioning systems (CAGR 2015/2018e de 9.4%). It also benefits from **opportunities created by regulations** obliging carmakers to equip their models with **eCall** systems as of 2018, volumes of which are estimated at 20m units out to 2020, or a 2015/2018e CAGR of 55% in these products.

What's the value added?

Difference from consensus

At present, **the consensus has factored in average sales growth of 19.6%** over 2015/2018e **showing a slowdown relative to the performance of +22.5%** reached over the past three years. We believe the group is capable of fully benefiting from market opportunities (see Catalysts) and its positioning to **generate growth equivalent to its historical levels at least. As such, our EPS estimates are on average 7.9% ahead of the consensus figures.**

Could I lose money?

Risks to our investment case

Despite u-blox business being particularly robust thanks to a high diversification (customer base + geography), the group is active in a market that is particularly sensitive to **macro-economic momentum** and this could have a positive or negative impact on our estimates. Given the attractive growth levels boasted by the group's market, **other players with larger R&D capabilities could destabilise u-blox' dominant position** and take a negative toll on 1/ volumes and 2/ prices.

2. Group snapshot

2.1. A niche player: positioning & wireless

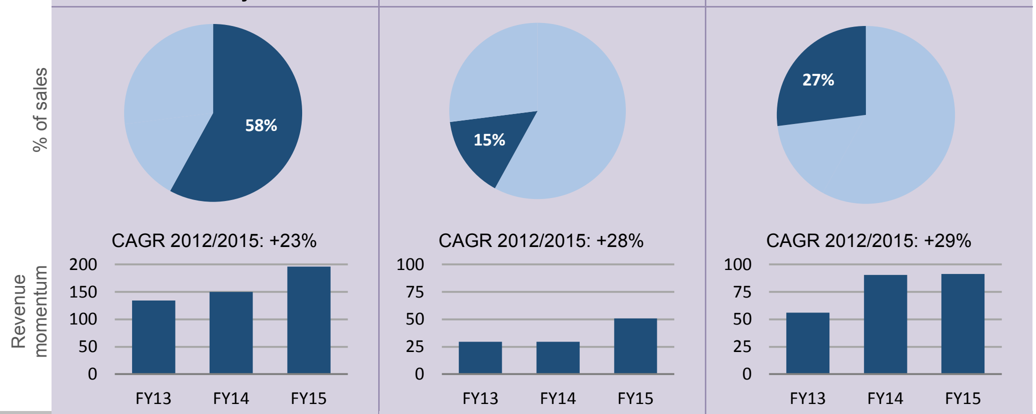
The group was created at the end of the 1990s, with the aim of capturing the emerging opportunity in the global navigation satellite system (GNSS) signal receivers market.

u-blox is a Swiss group that primarily manufactures chips and modules for connectivity and satellite positioning. **The group was created at the end of the 1990s, with the aim of capturing the emerging opportunity in the global navigation satellite system (GNSS) signal receivers market.** During the 2000s, the group therefore managed to benefit from its advantage as the first-entrant to become the market leader whereas this type of chip consumption was in full swing. **Strengthened by this success, the group then developed a 2G/3G connectivity module business functioning alongside positioning chips.** Today, the flagship application of u-blox modules is management of company vehicle fleets and the black boxes distributed by insurance companies in a number of countries.

The company's sales are divided into two segments: Positioning & Wireless Modules and Wireless Services, although virtually all sales in the Wireless Services segment are booked as intra-group transactions and its weight in consolidated sales stands at only 0.1%. **By market, u-blox is primarily exposed to the industrial segment (58% of 2015 sales), the automotive sector (27% of sales) and to a lesser extent the consumer electronics market (15% of sales).**

Fig. 1: The automotive market is more dominant than it looks in figures

	Industry	Consumer	Automotive



	Industry	Consumer	Automotive
Key products	- GNSS and wireless modules for vehicle tracking (fleet management) - GNSS chips for Marine - GNSS and wireless modules for Agriculture	- GNSS chips for cameras - GNSS and wireless module for people tracking - GNSS chips for personal nav devices	- GNSS modules for navigation systems - GNSS and wireless modules for anti-theft systems - Wireless chips for safety features
Key customers (examples)	- CalAmp - Huawei - Raymarine - Ingenico	- Samsung - Fujitsu - Sony - TomTom	- Bosch - Harman Becker - Coagent
Key catalysts	- Macroeconomic environment - Automobile sales - Industrial momentum	- Consumer market momentum - Design win in flagship products	- Macroeconomic environment - Automobile production - Design win in high volume models
Competitors	- IP: Qualcomm (incl. CSR), Broadcom - Chips: Qualcomm (incl. CSR), Broadcom, MediaTek, STMicroelectronics - Modules: Trimble and Asian local assemblers for GNSS ; Telit, Cinterion, Sierra, SIM and Asian assemblers for Wireless		

Source: Bryan, Garnier & Co.

If we include sales of vehicle positioning modules in the automotive sector, we estimate that more than 75% of the group's sales are exposed to the automotive market.

However, in addition to these official figures, we would add that sales of electronic modules for vehicle positioning are recorded in the Industry category. **If we include sales of vehicle positioning modules in the automotive sector, we estimate that more than 75% of the group's sales are exposed to the automotive market.**

Like Melexis and Dialog in Europe, nVidia and Qualcomm in the US, u-blox operates a fabless model (i.e. with no plant) outsourcing its production and focusing on developing chips and modules. Front-end manufacturing (wafer-level production) is outsourced to GlobalFoundries and TSMC, while the back end (IC packaging and testing) is operated by Amkor and assembly of the end modules is undertaken by Flextronics and Inventec.

In view of its niche market positioning, u-blox is fairly well protected from price wars and hence the price pressure generally noted in the semi-conductors industry. According to the latest market survey by ABI Research in December 2015, **Qualcomm is still the dominant player in positioning with its IZat platform, while Broadcom, recently acquired by Avago, is the market no. 2 with its HULA technology. u-blox took the no. 3 spot in 2015 thanks to its technological lead,** leaving MediaTek in fourth place. The Asian group suffered from an ageing product catalogue although the group enjoyed significant design wins, especially with Fitbit. STMicroelectronics and its TESEO platform completes this Top 5.

2.2. An M&A culture

- **Cellular expertise built on M&A activity.** Since the company was created in 1997, the group has built its expertise organically. However, following its flotation on the Swiss SIX stockmarket in 2007, the group has made a series of small acquisitions in order to step up its expansion. The first acquisition was made in 2009 and concerned Italian group NeonSeven (for CHF28.6m). The acquisition helped provide the group cellular expertise, especially in 2G/3G modules. In 2011, the group strengthened this know-how by acquiring Fusion Wireless (CHF1m) specialised in CDMA modules. The following year, Cognovo (CHF15.8m) and 4M Wireless (CHF8.6m) were targeted by the group thereby further rounding out the group's cellular know-how, but this time in 4G/LTE. In 2014, M&A activity resumed with the acquisition of connectBlue (CHF25m) and antcor (CHF6.3m), specialised respectively in Bluetooth/Wi-Fi and Wi-Fi intellectual property, providing the group short-range radio link technologies. These acquisitions were then bolstered in 2015 by the addition of Lesswire.

- **Historical know-how also strengthened by strategic acquisitions.** In order to ensure that innovation is maintained at a buoyant pace, the group has also been quick to acquire small players established in its historical core business of positioning. In 2009, the group acquired Geotate (CHF8.3m), specialised in GPS technology software, and then in 2010, Air Semi assets were purchased for an undisclosed amount. Finally, in 2012, u-blox bought Finnish group Fastrax (CHF15.7m), whose know-how in antennas rounded out the group's expertise in modules.

For of all of these acquisitions, **the group's track record in terms of integration has been particularly good. So far, u-blox has not needed to book impairment charges** and the few adjustments the group has had to make to goodwill have always been due to forex.

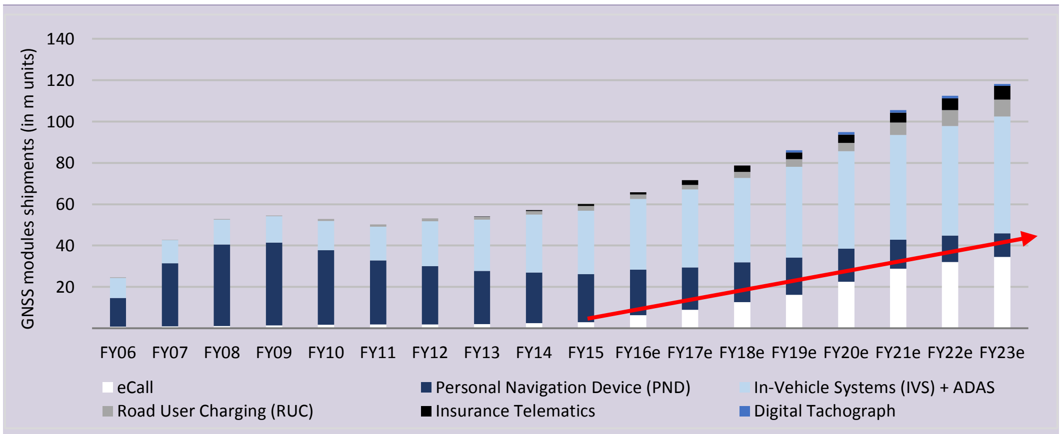
3. No slowdown in sight

Over the past five years, the group has managed to generate average growth of almost 25% whereas its core market, satellite signal receivers, only grew by 3%. In this respect, we believe that u-blox has the means to maintain market share gains over the next three years as the underlying market is set to accelerate and grow by 9% a year. Indeed, u-blox should benefit from 1/ its technological leadership position enabling it to maintain higher momentum than the market and 2/ the arrival of a new catalyst, eCall.

u-blox particularly well placed player to meet rising demand for connectivity and intelligence in vehicles.

u-blox is specialised in two types of chips, GNSS signal receivers and cellular modems. This makes it a **particularly well placed player to meet rising demand for connectivity and intelligence in vehicles**. Advanced Driver Assistance Systems (ADAS) naturally seem to be the main catalyst although we believe that while ADAS is set to play a significant role, the main source of dynamism is in an associated system, eCall (Emergency Call).

Fig. 2: eCall should be a strong catalyst for coming years



Sources: European Global Navigation Satellite Systems Agency; Bryan, Garnier & Co ests.

3.1. eCall, an underestimated catalyst

In the bid to reduce road deaths as far as possible, governments in numerous countries are extremely interested in pro-active technologies such as ADAS systems, **but also in so-called reactive systems,** especially those capable of triggering an emergency rescue plan following an accident. These systems are known as eCall and aim to notify local authorities as soon as possible after an accident in order to 1/ increase survival chances for those injured and 2/ ward off risks of additional accidents. These systems automatically communicate the exact position of the vehicle to the emergency services, the time of the incident and the vehicle's direction (useful for motorway accidents). The system is not a real-time monitoring system for all vehicles and the information is only transmitted in the event of a serious accident. eCall systems need to be autonomous and must be independent from the vehicle's electronics system, which could be damaged during an accident.

At end-April 2015, the European Union voted in favour of adopting an eCall regulation aimed at making this type of equipment obligatory in new cars as of April 2018.

At end-April 2015, the European Union voted in favour of adopting an eCall regulation aimed at making this type of equipment obligatory in new cars as of April 2018. This is not an isolated initiative and other similar decisions have been noted throughout the world like the ERA-GLONASS initiative in Russia.

Fig. 3: Average growth in demand of 9% in coming years in the automotive segment thanks to ADAS systems (+10%) and eCall (+62%)

Application	CAGR 2012/2015	CAGR 2015/2018e
Personal Navigation Device (PND)	-6.4%	-6.1%
In-Vehicle Systems (IVS) + ADAS	+12.1%	**+9.9%**
Road User Charging (RUC)	+20.9%	+9.3%
Insurance Telematics	n.s.	n.s.
eCall	+18.6%	**+61.8%**
Digital Tachograph	n.s.	n.s.
Total shipments	**+4.2%**	**+9.4%**

Sources: European Global Navigation Satellite Systems Agency; Bryan, Garnier & Co ests.

As such, while growth in volumes of GNSS signal receivers is only estimated at 9% on average, segments in which u-blox is positioned offer particularly encouraging prospects. According to the European Global Navigation Satellite Systems Agency (EGNSSA), the global market in eCall equipment represented around EUR0.7bn in 2015 and the agency is expecting it to multiply in size by 8.6x by 2020 to EUR6bn, with average growth of 43% over the period. We would nevertheless note that these value estimates are based on estimated selling prices of eCall devices (and not those of the chips used). The devices could embed other components and have a different price trend to the components they include.

Another way of estimating more precisely the opportunity created by eCall systems is to focus on estimated volumes of vehicle sales in Europe, or around 18m by 2020. By this date, all vehicles on the market should have an embedded eCall system and the EGNSSA anticipates eCall system volumes of 23m units (vs. around 3m units in 2015). Bearing in mind that Europe is not the only region to put this type of initiative in place, the EGNSSA forecast seems coherent (18m units for Europe and 5m units for the rest of the world).

We forecast an incremental market opportunity of around USD190m out to 2020.

As such, based on average selling prices for an u-blox GNSS+LTE module of just above CHF10 in 2015, to which we have applied a 4% annual decline out to 2020e (bearing in mind that ASPs have remained virtually stable at u-blox for the past five years), we forecast **an incremental market opportunity of around USD190m out to 2020.**

Fig. 4: An incremental opportunity of around USD190m out to 2020e

	2014	2015	2016e	2017e	2018e	2019e	2020e
Volumes of eCall Systems	2.5	3.0	6.3	9.0	12.7	16.2	22.5
ASP (in USD)	10.94	10.40	9.98	9.53	9.15	8.79	8.43
Market size	**27.4**	**31.2**	**62.9**	**85.8**	**116.2**	**142.3**	**189.8**
u-blox market share	30%	30%	30%	30%	30%	30%	30%
u-blox opportunity	**8.2**	**9.4**	**18.9**	**25.7**	**34.9**	**42.7**	**56.9**
yoy change		14.1%	101.5%	36.4%	35.5%	22.5%	33.3%

Sources: European Global Navigation Satellite Systems Agency; Bryan, Garnier & Co ests.

We estimate that the group currently generates less than CHF10m in eCall system modules and are forecasting sales of around CHF35m out to 2018, or 6.5% of total group sales (around 30% market share).

3.2. The group is also providing itself the means to grow

Beyond eCall systems, we believe the group is capable of maintaining strong growth in other segments in which it is positioned, in particular thanks to market share gains. Indeed, while u-blox has managed to win market share in the past, this success has stemmed from both its R&D and its proximity with clients. Since it is a specialist and precursor in the niche market of GNSS and wireless modules for the automotive sector, the group has managed to create solid positions up against major names such as Qualcomm, Broadcom, MediaTek and STMicroelectronics and we believe that it is capable of maintaining this momentum.

In terms of R&D, CHF65m was invested in new system development in 2015, or 19% of sales (vs 18% on average between 2010 and 2014). This is a high proportion for the industry and is a reminder of the R&D investment levels seen at STMicroelectronics (as a percentage of sales), but the group makes up for this by:

- 1/ very well controlled general, sales and marketing expenses (sales & marketing: 8% of sales, general & administrative expenses: 4%)
- 2/ a high gross margin since u-blox benefits from high entry barriers in the automotive market (and hence constant pressure on prices) and outsources production to major foundries enabling it to pool fixed costs for fabs as far as possible while maintaining significant room to manoeuvre in volumes.

A technological lead is found in u-blox's product portfolio.

This technological lead is found in u-blox's product portfolio. A recent example is the new NEO-M8U positioning model, which is an untethered dead reckoning navigation system. The module works by using data generated by a positioning chip and an inertial sensor (gyro/accelerometer) enabling it to 1/ improve positioning accuracy, 2/ position objects in dense areas, tunnels or other environments that deteriorate satellite signals and 3/ significantly improve positioning reactivity (especially during clear accelerations). The innovation in this model lies above all in its ability to function autonomously, thereby enabling a fully independent positioning (vs. a positioning that requires and uses information stemming from other car components in order to gather speed data supplied by the car itself).

For clients, another major advantage of u-blox systems is that they are interoperable between generations.

For clients, another major advantage of u-blox systems is that they are interoperable between generations. As such, a motherboard compatible with a 2G/3G & GPS u-blox module in generation N will also be compatible with a 3G/4G & GPS/GLONASS u-blox module in generation N+1. This is a significant competitive advantage since it enables systems engineers not to have to rethink and redesign the electronics cards in order to evolve their systems but to just change the wireless and GNSS module.

Finally, the group's proximity with its clients is also a clear commercial asset.

Finally, the group's proximity with its clients is also a clear commercial asset. In an environment where only major clients count, u-blox is a supplier, which in view of its size, cannot allow itself to categorise its clients. As such, if clients such as CalAmp, Raymarine, Ingenico and Coagent can be categorised as small for a player such as Qualcomm (relative to Apple for example), they ultimately have access to more sales and technical resources at u-blox.

4. Our scenario

4.1. P&L: 30% average growth in 2015/18e EPS

In view of its practices, u-blox has built up genuine recognition within the industry. With high-quality products, client-focused sales practices and a spotlight on technological innovation**, we believe the group has all the keys necessary for continuing to grow above its market. Our model points to average 2015/18e sales growth of 23%** based on stable ASP thanks to favourable mix effect (like change in ASP over the past five years at u-blox).

We are also forecasting a slight margin widening (16% EBIT margin in 2018e vs. 15% in 2015). Indeed, we believe that the group should be capable of making the most of additional volumes, especially in terms of operating expenses, to gradually improve its margin rate.

Fig. 5: Forecast for average growth in 2015/18e EPS of 30%

[in CHFm]	2015	1H16e	2H16e	2016e	2017e	2018e	CAGR 15/18e
Sales	**338**	**194**	**210**	**405**	**501**	**635**	**23.4%**
Seq. growth	25%	10%	8%	20%	24%	27%	
Gross profit	**155**	**87**	**94**	**181**	**223**	**283**	
Gross margin	46%	45%	45%	45%	45%	45%	
R&D	-65	-36	-39	-75	-91	-111	
% of sales	-19%	-19%	-19%	-19%	-18%	-18%	
G&A	-14	-8	-9	-17	-21	-26	
% of sales	-4%	-4%	-4%	-4%	-4%	-4%	
S&M	-28	-16	-17	-33	-43	-52	
% of sales	-8%	-8%	-8%	-8%	-9%	-8%	
EBIT	**51**	**29**	**31**	**60**	**73**	**98**	**24.3%**
Operating margin	15%	15%	15%	15%	15%	16%	
Financial result	-4	0	0	0	2	4	
% of sales	-1%	0%	0%	0%	0%	1%	
Income Tax	-11	-7	-7	-14	-16	-22	
Income tax rate	-22%	-23%	-23%	-23%	-22%	-22%	
Net Profit	**37**	**22**	**24**	**47**	**59**	**81**	**29.5%**
Net margin	11%	12%	12%	12%	12%	13%	
Dil. EPS	**5.45**	**3.29**	**3.57**	**6.86**	**8.60**	**11.82**	**29.5%**
EPS seq. growth	8%	1%	8%	26%	25%	38%	

Source: Bryan, Garnier & Co ests.

4.2. The group aims to maintain a positive FCF

While the group aims to maximize R&D efforts, we note that u-blox focuses on maintaining a positive FCF. In our model, the cash generation is limited (FCF Yield 2016th 1.2%) but the group keeps a comfortable net cash position of EUR76m estimated for 2018e (2018e gearing of -20%).

Note that u-blox goal is to maximize R&D but always to maintain a positive FCF.

Fig. 6: Fragile cash generation…

[in CHFm]	2015	1H16e	2H16e	2016e	2017e	2018e	CAGR 15/18e
EBITDA	**76**	**43**	**46**	**89**	**110**	**138**	
Change in WCR	-5	-4	-4	-8	-11	-15	
Other	4	-7	-7	-14	-16	-22	
Cash flow from operating activities	75	32	36	68	83	100	
Capex	-43	-24	-26	-51	-63	-79	
Free Cash Flow	**32**	**8**	**9**	**17**	**20**	**21**	**-13.0%**
Acquisitions	0	0	0	0	0	0	
Other	10	0	0	0	0	0	
Cash flow used for investing activities	-33	-24	-26	-51	-63	-79	
Proceeds of LT & ST debt	60	0	0	0	0	0	
Repayment of LT & ST debt	-20	0	0	0	0	0	
Dividend payment	-11	-6	-6	-12	-15	-20	
Other	-16	0	0	0	0	0	
Cash flow from financing activities	34	-6	-6	-12	-15	-20	
Total Cash flow	75	2	3	6	5	1	
CTA (Cumulative translation adj.)	0	0	0	0	0	0	
Net increase in cash	75	2	3	6	5	1	
Cash at beginning of period	38	112	115	112	118	123	
Cash at end of period	**112**	**115**	**118**	**118**	**123**	**124**	**3.3%**

Source: Bryan, Garnier & Co ests.

Fig. 7: … but the group keeps a net cash position over the next three years

[in CHFm]	2015	1H16e	2H16e	2016e	2017e	2018e
Cash and cash equivalents	112	115	118	118	123	124
Trade accounts receivables	44	48	52	52	65	82
Inventories	37	41	45	45	55	70
Other	26	27	28	28	31	34
Total current assets	220	231	243	243	274	310
Property, plant and equipment	15	6	-4	-4	-28	-52
Goodwill	57	57	57	57	57	57
Other intangible assets	88	107	128	128	179	242
Other	8	8	8	8	8	8
Total non-current assets	167	177	189	189	215	255
Total assets	**387**	**409**	**431**	**431**	**488**	**565**
Trade accounts payables	24	27	29	29	36	45
Current borrowings	0	0	0	0	0	0
Provisions	0	0	0	0	0	0
Other	31	32	33	33	35	38
Current liabilities	55	59	62	62	71	83
Borrowings	59	59	59	59	59	59
Provisions	6	6	7	7	9	11
Net pension liability	12	13	15	15	18	23
Other	6	6	6	6	7	7
Non-current liabilities	83	85	87	87	92	100
Total equity	248	265	283	283	325	382
Total liabilities and Shareholders' equity	**387**	**409**	**431**	**431**	**488**	**565**

Source: Bryan, Garnier & Co ests.

5. Upside potential of 16%

We generally use at least two valuation methods. However, like Melexis, the specific profile of u-blox (midcap and fabless with outstanding growth) makes the composition of a representative sample irrelevant. As such, a peer comparison does not seem relevant.

Our Fair Value of CHF265 therefore stems from a DCF valuation and shows upside potential of 16% relative to the current share price. In view of 1/ the upside potential shown in our valuation and 2/ positive momentum that we expect for the share, we are adopting a Buy recommendation.

Our DCF valuation is based on the following assumptions:

- **Our base scenario, which includes estimates out to 2018e.** Like other semiconductors players that we cover, we have applied a cyclical growth scheme over the normalised period (from 2019e to 2024e). However, given u-blox' outstanding growth profile in recent years, we have not applied our usual method of reproducing the characteristics of the previous cycle in the normalised period. We have assumed a growth rate of 25.0% (equivalent to the average growth rate over the past five years) at the beginning of the normalised period, or 2019e, which seems more representative of coming years. We have then applied a linear reduction to this rate out to 2024e in order to reach our terminal growth rate of 3.0%. For the 2016/25e period, this scenario points to average growth of 17.5%.

- **We have assumed average underlying EBIT margin of 15.3% over 2016/25e**, i.e. the margin in our 2016/18e scenario and then a linear reduction in this margin in order to reach our long term margin of 14.7% (i.e. average EBIT margin of the past five years).

- **WCR moving in line with sales growth and maintained at a level of close to 7.5% of sales over the entire period,** i.e. equivalent to the historical five-year average at u-blox.

- **Capex equivalent to 11.5% of sales over the entire period,** i.e. equivalent to the historical five-year average at u-blox.

- **A corporate tax rate close to 23% corresponding to u-blox' normalised tax rate** given that the group's head offices are located in Thalwil in the canton of Zurich in Switzerland (or 8.5% of federal tax to which communal tax of 14.5% is added).

- **WACC of 10.0%**. We have applied beta of 1.2x, or similar to the level used in the valuation of ASML, Infineon and Melexis, a risk-free rate of 1.6% and a market risk premium of 7%. On closing in 2015, the group had net cash of CHF65m. Interest rates on borrowing are therefore not part of the WACC calculation.

Fig. 8: WACC of 10.0%

WACC	
European risk-free interest rate	1.6%
Equity risk premium	7.0%
Beta	1.2
Return expected on equity	**10.0%**
Interest rate on debt	2.5%
Market Capitalization (CHFm)	1,478
Net debt on 31/12/15 (CHFm)	**-65**
Entreprise value (CHFm)	1,413
WACC	**10.0%**

Source: Bryan, Garnier & Co. ests.

Fig. 9: DCF, FV of CHF265 or upside potential of 16%

in CHFm (FYE 31/12)	2016e	2017e	2018e	2019	2020	2021	2022	2023	2024	2025
Revenues	**405**	**501**	**635**	**794**	**968**	**1,149**	**1,328**	**1,493**	**1,632**	**1,733**
Change (%)	*19.6%*	*23.8%*	*26.9%*	*25.0%*	*21.9%*	*18.7%*	*15.6%*	*12.4%*	*9.3%*	*6.1%*
Adjusted EBIT	**60**	**73**	**98**	**127**	**154**	**181**	**208**	**231**	**251**	**264**
Adjusted operating margin	*14.8%*	*14.6%*	*15.5%*	*16.0%*	*15.9%*	*15.7%*	*15.6%*	*15.5%*	*15.4%*	*15.2%*
Tax	-14	-16	-22	-29	-35	-41	-47	-52	-56	-59
Tax rate	*22.5%*	*21.5%*	*21.5%*	*22.5%*	*22.5%*	*22.5%*	*22.5%*	*22.5%*	*22.5%*	*22.5%*
Net Operating income after tax	**46**	**57**	**76**	**98**	**119**	**140**	**161**	**179**	**194**	**205**
Capex, net	-51	-63	-79	-91	-111	-132	-153	-172	-188	-199
As a % of sales	*12.5%*	*12.5%*	*12.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*
Depreciation & amortisation	29	37	39	91	111	132	153	172	188	199
As a % of sales	*7.2%*	*7.3%*	*6.2%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*
WCR	24	35	51	60	73	86	100	112	122	130
As a % of sales	*6.0%*	*7.0%*	*8.0%*	*7.5%*	*7.5%*	*7.5%*	*7.5%*	*7.5%*	*7.5%*	*7.5%*
Change in working capital	-8	-11	-15	-9	-13	-14	-13	-12	-10	-8
Free cash flows	**17**	**20**	**21**	**90**	**106**	**127**	**147**	**167**	**184**	**197**
Discounted free cash flows	**17**	**17**	**17**	**65**	**70**	**76**	**80**	**83**	**83**	**81**

Total discounted FCF - 2016e-2025e	588
Discounted Terminal value - 2026e+	1,149
Enterprise value	**1,737**
- Net debt on 31/12/2016e	-70
Equity value	**1,808**
Nbr of diluted shares (m)	6.810
Valuation per share (CHF)	**265**
Upside vs. current share price	16%

		WACC				
	[in CHF]	9.0%	9.5%	10.0%	10.5%	11.0%
Op. margin	13%	283	259	238	220	204
	14%	301	274	252	232	215
	15%	318	289	**265**	245	227
	16%	335	305	279	257	238
	17%	352	320	293	270	249

Source: Bryan, Garnier & Co.

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BRYAN, GARNIER & CO

London
Beaufort House
15 St. Botolph Street
London EC3A 7BB
Tel: +44 (0) 207 332 2500
Fax: +44 (0) 207 332 2559
Authorised and regulated by the Financial Conduct Authority (FCA)

Paris
26 Avenue des Champs Elysées
75008 Paris
Tel: +33 (0) 1 56 68 75 00
Fax: +33 (0) 1 56 68 75 01
Regulated by the Financial Conduct Authority (FCA) and the Autorité de Contrôle prudential et de resolution (ACPR)

New York
750 Lexington Avenue
New York, NY 10022
Tel: +1 (0) 212 337 7000
Fax: +1 (0) 212 337 7002
FINRA and SIPC member

Munich
Widenmayerstrasse 29
80538 Munich
Germany
+49 89 2422 62 11

New Delhi
The Imperial Hotel Janpath
New Delhi 110 001
Tel +91 11 4132 6062
+91 98 1111 5119
Fax +91 11 2621 9062

Geneva
rue de Grenus 7
CP 2113
Genève 1, CH 1211
Tel +4122 731 3263
Fax+4122731 3243
Regulated by the FINMA

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