CYAN AG
Germany - Software

Buy (Initiation)

Price target: EUR 30.00

Price:	EUR 20.50	**Next result:**	H1'18: 01.09.18
Bloomberg:	CYR@GY	**Market cap:**	EUR 167.9 m
Reuters:	CYR.DE	**Enterprise Value:**	EUR 167.5 m

05-July-18

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Secure Growth – Initiate with BUY

While security is a crowded field, **CYAN's business model is unique**: The company offers white label mobile security solutions exclusively to **security-sensitive B2B customers** such as banks and Mobile Network Operators (MNOs). Thanks to CYAN, these customers can provide effective security under their **own brand** as a "worry-free insurance" to their retail user base.

This not only strengthens retail client loyalty. Rather, it allows B2B customers to establish **high-margin and recurring revenue streams** next to their core business – a **strong value proposition** for banks and MNOs which face constantly rising price and margin pressure.

As a result, CYAN is seen to **effectively differentiate** from larger security players like NORTON or Symantec which lack interest in these **niche markets** AND would not dare risk cannibalising their software sales through white label B2B offerings.

As such, CYAN looks all set to **transform its early mover advantage into defendable market share** now that technology and product development have largely been finalised. In fact, the company is seen in an **enviable position** as it only needs to execute on its **strong deal pipeline** (eH&A: € 60m potential sales by 2021E) to quickly lift its operating performance to a completely new dimension.

This explains our **highly dynamic sales growth expectations of 75%** p.a. to € 39m (CAGR 2017-21E) while **EBIT should soar by 100%** p.a. in the same time frame benefitting from **supreme scalability** as the needed IT backbone is in place and software development has been finalised.

CYAN AG has recently gone public collecting some € 32m of gross proceeds which were used to acquire the remaining 49% stake in key operating entity CYAN Security Group for € 28m (now 100% ownership).

In light of expected 40%+ ROCE, c. 90% recurring sales and visible growth prospects, it seems justified to take a long-term approach to value CYAN: **Initiate with BUY and a € 30.00 price target** based on DCF.

Y/E 31.12 (EUR m)	2015	2016	2017	2018E	2019E	2020E	2021E
Sales	3.7	3.3	4.1	10.1	21.4	31.5	39.0
Sales growth	n/a	-11 %	24 %	145 %	112 %	47 %	24 %
EBITDA	1.8	1.2	1.9	6.6	14.9	22.4	28.1
EBIT	1.8	1.1	1.7	6.3	14.4	21.7	27.1
Net income	1.4	0.9	1.4	4.9	11.1	16.3	20.4
Net debt	-1.1	-0.9	-0.4	-6.4	-14.8	-28.3	-46.2
Net gearing	-491.9 %	-2658.0 %	-142.7 %	-17.7 %	-31.7 %	-45.4 %	-56.5 %
Net Debt/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPS pro forma	0.16	0.10	0.17	0.58	1.32	1.94	2.43
CPS	0.18	0.11	0.05	0.47	1.03	1.67	2.18
DPS	0.00	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 %	0.0 %
Gross profit margin	78.5 %	73.0 %	77.7 %	91.0 %	95.0 %	96.2 %	96.9 %
EBITDA margin	48.7 %	35.1 %	45.4 %	65.4 %	69.5 %	71.1 %	72.1 %
EBIT margin	47.6 %	33.5 %	41.2 %	62.7 %	67.4 %	69.0 %	69.5 %
ROCE	217.8 %	172.0 %	318.0 %	34.2 %	34.5 %	43.5 %	41.3 %
EV/sales	44.7	50.1	40.7	16.0	7.2	4.4	3.1
EV/EBITDA	91.9	142.5	89.6	24.5	10.3	6.2	4.3
EV/EBIT	93.9	149.5	98.8	25.5	10.6	6.4	4.5
PER	121.6	195.2	120.3	34.4	15.1	10.3	8.2
Adjusted FCF yield	0.8 %	0.5 %	0.8 %	3.0 %	7.3 %	11.7 %	16.7 %

Source: Company data, Hauck & Aufhäuser Close price as of: 04.07.2018

Source: Company data, Hauck & Aufhäuser

High/low 52 weeks:	24.92 / 20.20
Price/Book Ratio:	-
Relative performance (TecDAX):	
3 months	-29.9 %
6 months	-
12 months	-

Changes in estimates

		Sales	EBIT	EPS
2017	*old:*			
	Δ			
2018	*old:*			
	Δ			
2019	*old:*			
	Δ			

Key share data:

Number of shares: (in m pcs)	8.4
Authorised capital: (in € m)	-
Book value per share: (in €)	0.0
Ø trading volume: (12 months)	-

Major shareholders:

Alex Schütz	28.1 %
Apeiron	20.9 %
Infinitum	13.0 %
Tansanit	13.1 %
Free Float	24.8 %

Company description:
CYAN is a white label B2B security provider

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Introducing CYAN AG

- **White label cyber security provider** with a focus on highly sensitive mobile applications
- CYAN helps customers establish **recurring revenue streams** and strengthen client loyalty through add-on security services
- **Business at an inflection point**: Highly scalable growth expected backed by outstanding deal pipeline

CYAN is a white label security provider with a singular B2B2C business model: Rather than targeting retail clients directly, CYAN helps corporates provide effective security under their own brand as a “worry-free insurance” to their retail user base.

The benefits: Cyan’s customers can establish a high-margin revenue stream and strengthen retail client loyalty thanks to value-added services. Meanwhile, CYAN benefits in the form of **scalable and recurring revenues** as it receives a fixed monthly fee per retail client using its software (i.e. no installation fee).

CYAN’s technology is based on a **proprietary security filter** which relies on 23 different diagnostic methods to constantly screen the worldwide web for potential threats such as bad content, malware and ransom ware. **Needed computing power should be rented from e.g. AWS**. Constant updates enable the security filter to steadily improve its efficiency.

CYAN focuses on security for **highly sensitive mobile applications** targeting mostly financial services companies (2021E: 45% of sales eH&A) and mobile network operators (18%). For instance, its security may protect a banking app or an entire handheld used on a mobile network. **The client base includes reputed names** such as T-Mobile Austria or Sberbank.

Importantly, leveraging its existing IT infrastructure and know-how, CYAN is launching **new solutions** such as the disruptive “data compression” technology which **yields brisk cost savings** for mobile virtual network operators (MVNOs) by blocking costly background tracking data.

Note: When surfing the web, background tracking data may include undesirable phishes and trackers which eat up data volume and perform no valuable function other than tracking user behaviour e.g. for spam mails.

CYAN is now seen at an inflection point. While the company has focused on technology and product development over the past years, it is now ready to **capitalise on its robust pipeline** of secured contracts and highly likely contract wins with clients worldwide which should drive dynamic growth in the coming years.

Trend in key ratios

€ m	2017E	2018E	2019E	2020E	2021E
Sales	**4**	**10**	**21**	**31**	**39**
yoy	24%	145%	112%	47%	24%
EBIT	**2**	**6**	**14**	**22**	**27**
EBIT margin	41%	63%	67%	69%	70%
ROCE	**318%**	**34%**	**35%**	**43%**	**41%**
FCF	**0**	**4**	**8**	**13**	**18**

Source: Hauck & Aufhäuser estimates

Notably, **growth should be highly scalable** as CYAN "only" needs to execute on part of its established deal pipeline to reach our 2021E estimates. At the same time, (1) Technology investments have been finalised; (2) The needed IT infrastructure has been set up limiting incremental investment needs; (3) CYAN's B2B customers will take care of sales & marketing when rolling out security to their retail user base.

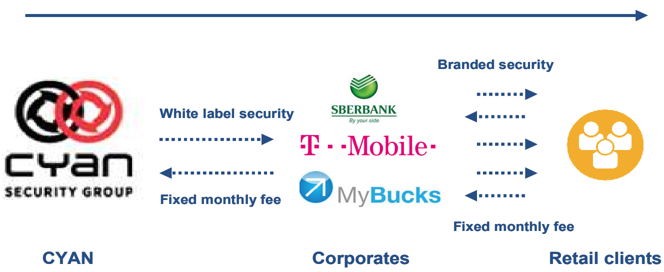
In its recent IPO, CYAN collected some € 32m of gross proceeds. The rationale:

- With the majority of the proceeds, **CYAN AG acquired the remaining 49% stake in CYAN Security Group** from former owner Compass for € 28m in March 2018. Explanation: CYAN Security Group is the operating entity in which CYAN AG previously held 51%.
- Support the **internationalisation of the business**.
- Potentially execute **bolt-on technology take-overs** (not included in eH&A).

	MNO	Financial Services	MVNO	Government	Other	Group
Products	Security	Security	Security Data compression	Security	n/a	

Go to market

CYAN's B2B2C business model



Revenues are c. 90% recurring (eH&A)

	MNO	Financial Services	MVNO	Government	Other	Group
Sales 21E (€ m)	7	18	9	4	2	**39**
Sales share	18%	45%	22%	10%	5%	**100%**
Market positions	CYAN is a **leading white label security provider** in targeted niche markets					
Sales by product (21E)	Security: € 35m Data compression: € 4m					
Selected clients	T-Mobile Austria	MyBucks, Sberbank	n/a	n/a		
	Excellent pipeline of signed and high-probability customers providing strong visbility on future growth. Leads include Orange, AIS, Smartfren etc.					
Competitors	eH&A: Companies like Sophos, Symantec, Fire Eye etc. operate a **different business model** and target high-volume applications		eH&A: No rivals	eH&A: No rivals		
Raw Materials	Key "raw materials" include **rented computing power** (from e.g. Amazon Web Services). Apart from that, CYAN's main "input" are software enigneers.					
Sales by region	**Revenues are currently generated in Austria and Poland**. By 2021E, a substantial part of revenues should be generated in Asia (e.g. Indonesia, Thailand), the rest of Europe (e.g. Italy) and South America (e.g. Brazil)					
EBIT 21E (€ m)						**27**
EBIT-margin 21E						**70%**
ROCE 21E						**41%**

Source: Hauck & Aufhäuser estimates

Competitive Quality

- **Unique business model provides effective differentiation**: CYAN operates as white label security enabler for its clients
- **Tight focus on lucrative and security-sensitive niches**
- **Brisk defensibility** mostly based on niche focus and risk of cannibalisation for big players
- **Excellent business quality**: Some 90% recurring sales, outstanding ROCE, strong FCF generation

Unique business model the key differentiator

CYAN's distinctive feature is a singular business model: Rather than targeting retail clients directly, the company helps its B2B customers provide cyber security to their own retail user base. To this end, CYAN offers **white label security solutions** which its clients can easily integrate into their infrastructure, rebrand and sell as their own.

This **effectively differentiates** CYAN from the number of larger security providers such as Symantec (NORTON), Palo Alto or Sophos which either target enterprise customers or retail clients directly under their own brand.

Singular business model differentiates CYAN

Contenders	FORTINET, Check Point, paloalto, Norton	F-Secure, Kaspersky, Norton	cyan SECURITY GROUP
Target market	Enterprise	Private clients	Security-sensitive industries only
What is being protected?	Desktop PCs	Desktop PCs / Mobile devices	Focus on mobile
Distribution	B2B	B2C	B2B2C
Branded or white label?	Branded	Branded	White label
Addressable market size	Large	Large	Niche

Source: Company data, H&A

Focus on lucrative niches

At the same time, CYAN has established a **tight focus** on mobile applications for the **most security-sensitive industries** benefitting from the steep increase in mobile cyber attacks which has made security the focus of discussions. Key target industries include:

- **Mobile Network Operators** which thanks to CYAN can offer their retail clients comprehensive security for their handhelds as an add-on service.
- **Financial services companies** such as banks which as the "trusted advisor" can thus offer their retail clients security for mobile banking access.

The advantage for CYAN: These target markets are seen to constitute **lucrative niches** which should be too small to attract heavyweight competition especially considering the attractive monthly price at which CYAN offers its security (less than € 0.50 typically).

Still, the respective customers each possess a large retail user base to which they can roll out the white label security solutions **acting as a strong multiplier for CYAN** without the need for incremental investments.

Brisk defensibility to shield CYAN from new rivals

In a nutshell, all of the above should help explain the **brisk defensibility** of CYAN's business model which is grounded in cannibalisation risk, the niche character of target markets and management's personal network.

Defensibility of CYAN's business model

Cannibalisation risk	Niche character	Personal network
Big players would risk **cannibalising their own high-margin security software revenues** if they were to copy CYAN's business model: The white label corporate customers would potentially compete at least partly for the same retail clients.	The leader in B2B2C white label security, CYAN is seen to generate some € 39m sales by 2021E **underpinning the market's niche character**. Large established security players generate several billion in sales p.a. **suggesting they lack interest in CYAN's markets**.	CYAN has initially set up its white label security business through management's **personal network in the telecom industry** given that CEO Arnoth used to work at T-Mobile and E-Plus. Lacking this network, **new entrants should find it hard to compete**.

Source: Company data, Hauck & Aufhäuser

All of this should also be true for CYAN's new ventures like the data compression technology which is seen as a unique solution (i.e. no competition, in our view) targeting niche applications (i.e. cost savings for MVNOs)

Strong value-add provides effective lock-in

With its white label security as a service offering, **CYAN provides strong value-add** to both its own clients AND the retail customer:

- Corporate clients can set up a **recurring revenue stream** and strengthen user loyalty and satisfaction by offering security add-on services. Meanwhile, CYAN's solution is "hassle-free" (i.e. easy integration into client's infrastructure) and there is no up-front cost (i.e. B2B clients pay a fixed monthly fee only for active retail users).

- Retail clients have access to a "**worry-free insurance**" from a trusted partner which does not require a download (i.e. the partner takes care).

An example best underpins CYAN's value proposition. For a key MNO client, CYAN's white label security has become the most important high-margin add-on revenue stream. Meanwhile, in a proof of concept for a Mexican client, CYAN has demonstrated that its data compression solution can cut unnecessary data usage by up to 20% (eH&A) **saving the client bare money**.

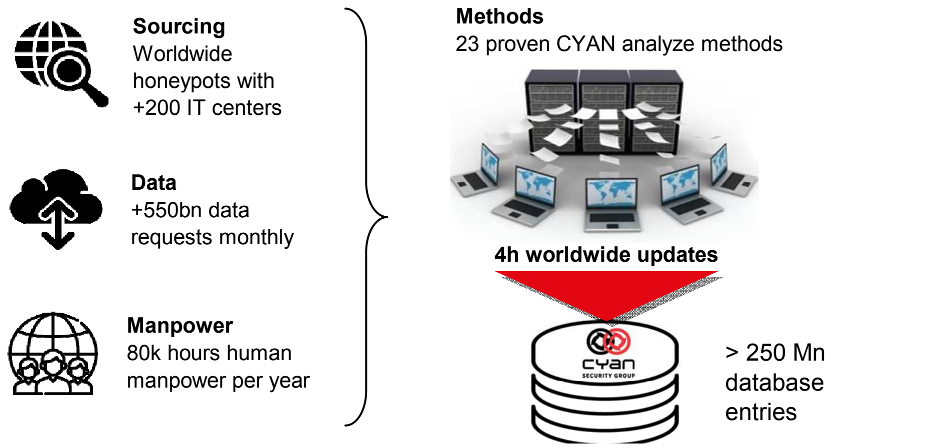
As a result, we consider CYAN to command **sound bargaining power versus customers and benefit from strong lock-in**. In fact, B2B customers should have little incentive to switch a “running system” to a potential new provider especially considering that contracts typically run for 3-5 years.

Do-it-Yourself hardly an option

CYAN’s bargaining position should be reinforced by the fact that its B2B customers wish to focus on the core business and **lack security know-how** to in-source the technology. This is especially true considering the complexity of CYAN’S security technology as well as pending patent protection.

- **Complex security filter** – CYAN relies on 23 different analytical methods and rents computing power from 200 globally dispersed data centres to constantly screen the web for bad content. The resulting security filter releases worldwide updates every four hours to ensure up-to-date protection. **All of this should be hard to copy**.

CYAN's complex security filter should be hard to copy



Source: Company data, Hauck & Aufhäuser

- **Pending patents** – CYAN should be on track to secure patents for (1) Threat level calculation (i.e. client behaviour is converted into individual threat level); (2) Sandboxing interactive (i.e. analysing mobile content by behaving like a typical retail client).

“Land grab strategy” in full effect

In any case, **we see CYAN on track to secure market share** given its early mover advantage in targeted niche markets. In fact, while CYAN has invested into technology development in past years, it is now looking to capitalise on the strong demand for mobile security in light of the ever increasing threat of cyber attacks.

Notably, CYAN has already established a strong **deal pipeline** which is seen to yield brisk visibility on growth. This should be the result of its growing reputation in the market, the strong value proposition of its solutions as well as the personal network of its shareholders and management.

Meanwhile, **CYAN’s business model is highly scalable**: The company only needs to execute on its pipeline as needed infrastructure has been set up and can accommodate a much larger client base, sales & marketing is mostly done by B2B customers when these roll out the solution to their retail user base, and its proprietary software is fully developed.

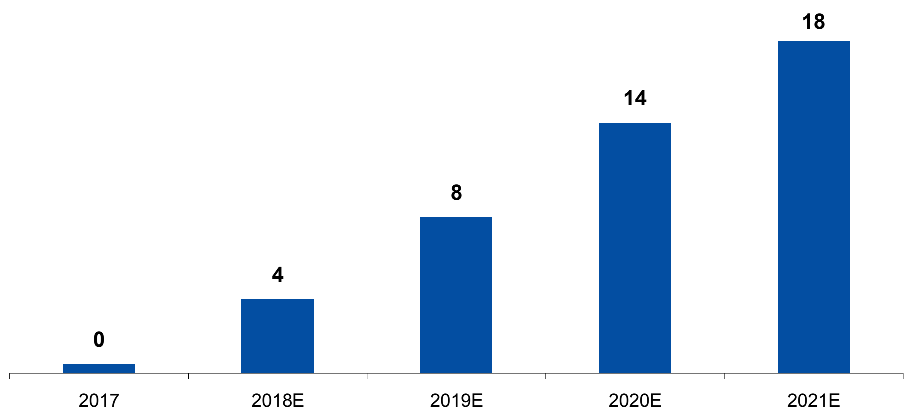
Business quality

Outstanding business quality is reflected in visibility (i.e. recurring revenues), strong FCF generation, and exceptional value creation (i.e. ROCE strongly exceeding WACC).

- **Recurring revenues** – Some 90% of CYAN's group revenues are recurring (eH&A) as retail users pay a fixed monthly fee for the software. In this number we account for the typical 10% churn of MNO retail clients.

- **FCF generation** – We expect CYAN to generate some **€ 14m free cash flow by 2020E** which is supported by its scalable AND capital-light business model. Notably, as a software business, CYAN requires little fixed investments (eH&A: € 1.2m capex in FY'20E) and does not need to hold inventories (i.e. 20% w/c ratio by FY'20E).

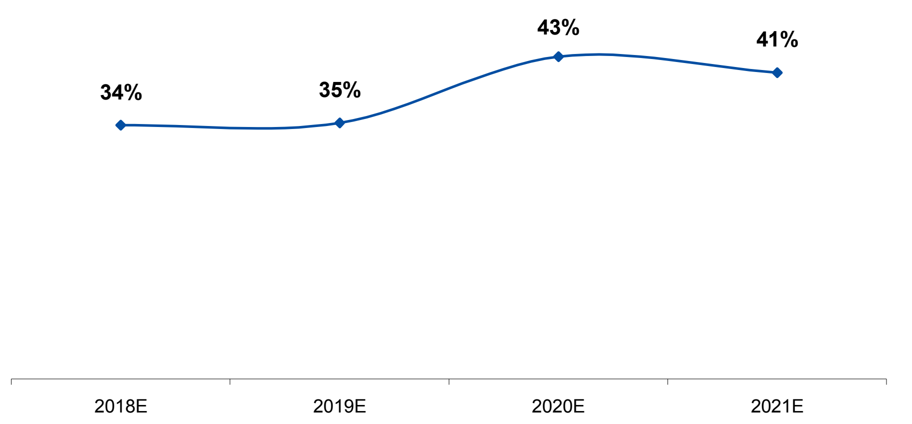
Free cash flow generation 2017-21E (€ m)



Source: Hauck & Aufhäuser estimates

- **ROCE** – In light of highly scalable growth and strong margins, we expect returns to achieve an excellent level of **above 40% by 2020E** clearly exceeding the estimated 10% cost of capital.

ROCE 2017-21E



Source: Company data, Hauck & Aufhäuser

Growth

Outstanding growth expected: Sales to soar by 75% p.a. to € 39m by 2021E:

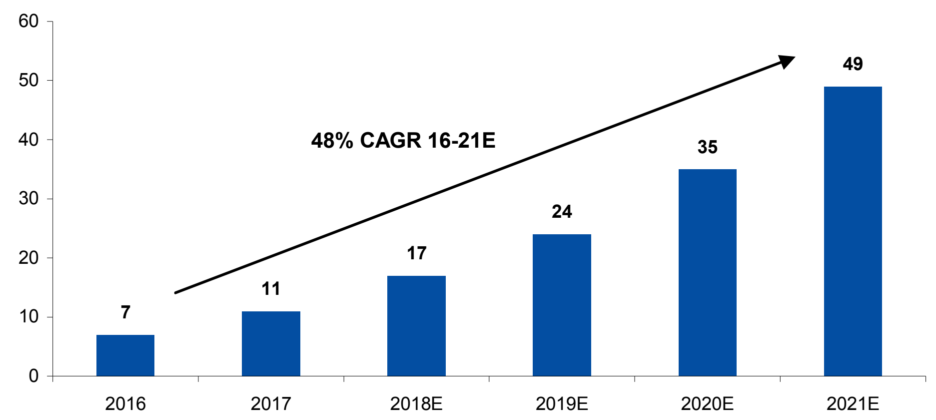
- **Favourable growth backdrop** as cyber attacks continue to escalate in frequency and sophistication
- **Unique business model** with strong value proposition to drive customer wins
- **Outstanding deal pipeline** provides excellent growth visibility – Execution is key

Market trends provide favourable growth backdrop

Two key market developments are seen to **provide a fertile growth environment** for CYAN:

- **Mobile growth rates and cyber attacks** – Mobile data traffic is expected to soar by some 50% p.a. (CAGR 2016-21E) according to Cisco. As evidenced by latest attacks on uber and Instagram, this is seen to increase the threat of cyber attacks taking the form of malware, ransom ware, identity theft etc. According to industry research, mobile cyber attacks have skyrocketed by 40% yoy to 1.7m per month in 2017. As such, **CYAN's mobile security solutions should be in constantly high demand**.

Global mobile data traffic 2016-2021E (Exabytes per month)

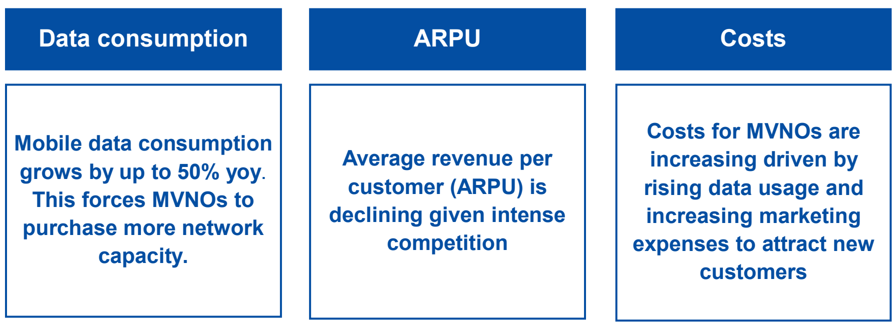


Source: Cisco, Hauck & Aufhäuser

- **MVNO margin pressure** – Mobile Virtual Network Operators are facing ever increasing margin pressure in light of declining ARPUs (*average revenue per user*) due to intense competition coupled with rising costs driven by mobile data consumption growth and the need for high marketing spend. **This should make MVNOs susceptible to cost saving solutions like CYAN's unique data compression technology**.

Note: MVNOs are wireless communications services providers that do not own the infrastructure over which they provide services. They have to enter in a business agreement with MNOs enjoying extra wireless capacity to obtain bulk access to network services.

MVNOs to face rising margin pressure



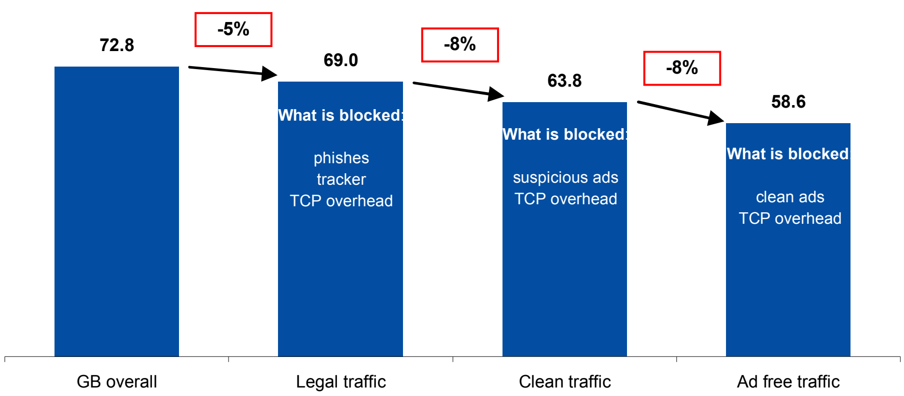
Source: Cisco, Hauck & Aufhäuser

CYAN's strong value-add to facilitate customer wins

Demand for CYAN's solutions should be supported by their **strong value proposition** coupled with the lack of up-front costs for the B2B customer. For instance:

- For a key Austrian customer, CYAN's add-on security service has become the **most important high-margin revenue stream** next to its core business.
- In a proof of concept for customer, CYAN has demonstrated that its data compression solution **can reduce background tracking significantly**, in our view by up to 20%. As MVNOs have to purchase data bandwidth from the mobile network owner, **this reduction translates into significant cost savings**.

Proof of concept: Data compression cuts data consumption substantially



Source: Company data, Hauck & Aufhäuser

Outstanding deal pipeline provides high visibility on growth

As product and technology development have largely been finalised, **CYAN is now preparing for a major growth push** by capitalising on its unique standing in lucrative niche markets.

In fact, CYAN has already established a strong **deal pipeline** which grants brisk visibility on growth and underpins that B2B customers perceive and value the company's excellent value proposition.

We expect the pipeline to comprise some **15-20 potential B2B customers** offering a combined **revenue potential in excess of € 60m by 2021E** in a best case scenario (eH&A / not probability-weighted). Note that the **pipeline is of high quality**: It does not include simple leads but only signed, agreed and high-potential customers.

Deal pipeline provides excellent visibility on growth

Signed	Agreed	High potential
Contract has been signed	**Letter of Intent has been signed** or similar	**High probability that Letter of Intent will be signed**
T-Mobile Austria **T-Mobile Poland** **MyBucks** **Sberbank (EU)**	**T-Mobile Croatia** **Inew** and several undisclosed	Various undisclosed names

Source: Company data, Hauck & Aufhäuser
Note: Customer names have been disclosed by CYAN in the 9m'17

We expect the pipeline to stem from the: (1) Strong value proposition of CYAN's solutions; (2) Personal network of CYAN's management and shareholders; (3) Successful activity of CYAN's sales partners.

As such, future growth is mainly a function of **CYAN executing on its existing pipeline**. Any further growth measures would likely result in CYAN increasing sales beyond our current expectations (*see further below*).

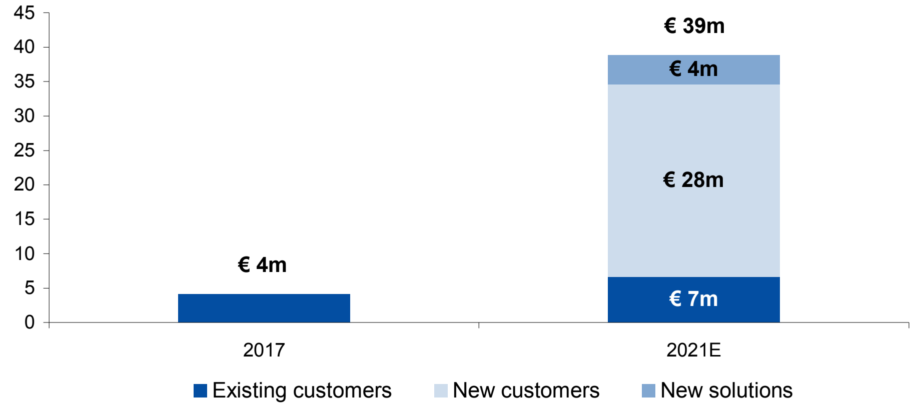
Growth in detail: Three key drivers

We model CYAN's top-line growth **exclusively falling back on the existing pipeline**. Conservatively, we expect CYAN to only partly execute on this pipeline.

As such, **sales growth should stem from three drivers**: (1) Growth with existing clients in new regions; (2) Winning new clients for existing solutions; (3) Growth with new solutions.

Using the assumptions below, **CYAN is expected to grow sales by 75% p.a**. on average to € 39m by 2021E.

Sales bridge 2017-21E



Source: Hauck & Aufhäuser expectations

(1) Growth with existing B2B customers (in new regions)

We expect business with existing customers to grow as (1) Additional retail clients should opt for the security feature in the coming years; (2) CYAN can expand with existing customers to new regions. **Key existing customer is Dt. Telekom (T-Mobile)** which should continue to roll out CYAN's security solution to retail clients in Austria, Poland and Croatia.

Modelling assumptions: We derive an addressable user base ("potential CYAN") from the total number of users. Typically, the addressable base is smaller than the total base as (1) not every user may have a smartphone; (2) B2B customers may market CYAN's solution in selected regions only.

The expected revenue by 2021E is derived by multiplying the addressable user base with the expected revenue per user (per year) and the take rate. The latter is the share of retail users amongst the addressable base expected to opt for the security solution.

We expect the **take rate to gradually increase over the coming years** explaining why revenues with B2B customers are seen to steadily increase until 2021E (*see second table*).

Existing customers - Key assumptions

	Client group	Product group	Total users ('000)	Potential CYAN ('000)	Revenue / User p.a. (€)	Take rate	Revenue 2021E (€ m)	in % of group sales 2021E
T-Mobile Austria	MNO	Security	4,500	1,500	7.6	35%	4.0	10%
T-Mobile Poland	MNO	Security	11,000	4,000	5.4	14%	0.3	1%
T-Mobile Croatia	MNO	Security	1,000	650	4.2	25%	0.7	2%
Other	Other	Security	-		-	-	1.7	4%

Revenue with existing customers 2017-21E

€ m	Client group	2017	2018E	2019E	2020E	2021E
T-Mobile Austria	MNO	3.0	3.4	3.6	3.8	4.0
T-Mobile Poland	MNO	0.2	0.2	0.3	0.3	0.3
T-Mobile Croatia	MNO		0.3	0.4	0.5	0.7
Other	Other	1.0	1.1	1.1	1.1	1.7
Total		**4.1**	**5.1**	**5.4**	**5.6**	**6.7**

Source: Hauck & Aufhäuser expectations

(2) Winning new customers for existing solutions

We expect the **most dynamic growth to come from new customers** as CYAN is seen to execute on its deal pipeline. Key new clients should include MyBucks (South Africa), Sberbank (EU), Smartfren (Indonesia) and AIS Thailand, in our view. On top of this, CYAN has already indicated that it expects to win at least **one big European bank**.

New customers - Key assumptions								
	Client group	Product group	Total users ('000)	Potential CYAN ('000)	Revenue / User p.a. (€)	Take rate	Revenue 2021E (€ m)	in % of group sales 2021E
MyBucks	Financial Services	Security	1,000	1,000	3.0	10%	0.3	1%
Sberbank (EU)	Financial Services	Security	40,000	6,000	3.0	20%	3.6	9%
Smartfren (Indonesia)	MVNO	Security	14,000	14,000	1.2	25%	4.2	11%
AIS Thailand	MNO	Security	55,000	1,000	5.0	40%	2.0	5%
Customer A (Italy)	Financial Services	Security	25,000	25,000	1.5	20%	7.5	19%
Customer B (Italy)	Financial Services	Security	4,500	4,500	1.5	10%	0.7	2%
Customer C (Balkans)	Government	Security	10,000	10,000	-	100%	4.0	10%
Customer D (Italy)	Financial Services	Security	25,000	25,000	1.5	15%	5.6	14%

Revenue with new customers 2017-21E						
€ m	Client group	2017	2018E	2019E	2020E	2021E
MyBucks	Financial Services		0.1	0.2	0.3	0.3
Sberbank (EU)	Financial Services		0.5	1.0	2.8	3.6
Smartfren (Indonesia)	MVNO		0.8	2.0	3.0	4.2
AIS Thailand	MNO		0.2	1.5	2.0	2.0
Customer A (Italy)	Financial Services		0.1	3.2	5.5	7.5
Customer B (Italy)	Financial Services		0.1	0.3	0.5	0.7
Customer C (Balkans)	Government		2.0	3.5	3.8	4.0
Customer D (Italy)	Financial Services		0.8	2.5	4.7	5.6
Total			**4.4**	**14.3**	**22.6**	**27.9**

Source: Hauck & Aufhäuser expectations

As shown in the tables above, we have once again made assumptions regarding the total retail user base, the addressable base for CYAN, the expected revenue per user per year and the take rate. For instance, the “potential CYAN” for Sberbank accounts for Sberbank’s relevant customer base in Central and Eastern Europe only.

Typically, **we expect the take rate to range between 10% and 40%** reflecting that retail clients should be interested in a “worry free insurance” in light of the growing mobile cyber threat AND as the offer comes from their trusted partner i.e. CYAN’s B2B customer.

As before, the take rate is expected to increase gradually over the coming years explaining why revenues with B2B customers should steadily grow until 2021E.

(3) Growth with new solutions

Growth with new solutions should exclusively relate to CYAN’s data compression solution with which MVNO can reduce data consumption and hence save costs. We expect CYAN to win two new customers shortly, namely I-New and an additional customer in Brazil. Expected revenues with both customers depend on anticipated cost savings the MVNO can realize with CYAN’s solution. **Cost savings should then be split with CYAN**.

New solutions - Key assumptions								
	Client group	Product group	Total users ('000)	Potential CYAN ('000)	Revenue / User p.a. (€)	Take rate	Revenue 2021E (€ m)	in % of group sales 2021E
I-New	MVNO	Data compression	-	-	-	-	3.6	9%
Customer A (Brazil)	MVNO	Data compression	-	-	-	-	0.7	2%

Revenue with new solutions 2017-21E						
€ m	**Client group**	**2017**	**2018E**	**2019E**	**2020E**	**2021E**
I-New	MVNO		0.5	1.4	2.8	3.6
Customer A (Brazil)	MVNO		0.1	0.3	0.5	0.7
Total			**0.6**	**1.8**	**3.3**	**4.3**

Source: Hauck & Aufhäuser expectations

Putting it all together: CYAN sales growth 2017-21E

Revenue generated with…					
€ m	**2017**	**2018E**	**2019E**	**2020E**	**2021E**
(1) Existing customers	4	5	5	6	7
(2) New customers	0	4	14	23	28
(3) New solutions	0	1	2	3	4

CYAN: Sales growth 2017-2021E					
€ m	**2017**	**2018E**	**2019E**	**2020E**	**2021E**
Sales	**4.1**	**10.1**	**21.4**	**31.5**	**39.0**
yoy	24%	145%	112%	47%	24%
MNO	**3**	**4**	**6**	**7**	**7**
yoy		29%	41%	14%	6%
in % of sales		40%	27%	21%	18%
Financial Services	**0**	**1**	**7**	**14**	**18**
yoy			391%	91%	28%
in % of sales		15%	34%	44%	45%
MVNO	**0**	**1**	**4**	**6**	**9**
yoy			167%	65%	36%
in % of sales		14%	18%	20%	22%
Government	**0**	**2**	**4**	**4**	**4**
yoy			77%	7%	6%
in % of sales		20%	16%	12%	10%
Other	**1**	**1**	**1**	**1**	**2**

Source: Hauck & Aufhäuser expectations

Bottom-line growth

- **Future growth should be highly scalable** – CYAN "only" needs to execute on its existing deal pipeline
- We expect CYAN to realise **70% EBIT margins** on incremental sales growth
- EBIT is hence seen to soar by **100% p.a**. on average between 2017-2021E

Scalability – The beauty of CYAN's business model

Future growth should be highly scalable as we expect CYAN to simply execute on part of its existing deal pipeline to reach our 2021E sales expectations. This means the company will mostly have to pay a **15% finder's fee to its sales partners** for establishing initial customer contact.

Apart from that, incremental expenses associated with the expected dynamic sales growth should be **very limited**:

- **The needed IT infrastructure has been set up** as CYAN rents computing power from 200 globally dispersed data centres. Importantly, we expect CYAN to need no more than 15 B2B customers to reach our 2021E estimates. The company's current IT backbone should clearly suffice to handle this number of customers.
- Technology and product development have largely been finalised.
- Material expenses include some third-party software components (e.g. IP license from Avira) and purchased third-party services which are not expected to increase materially with incremental sales growth.

All of this explains why we expect CYAN to realise **70% EBIT margins** on incremental sales growth

EBIT to soar by 100% p.a. between 2017 and 2021E

In sum, we expect group EBIT to show highly dynamic growth of above 100% p.a. going forward and reach € 27m by 2021E implying a 70% EBIT margin.

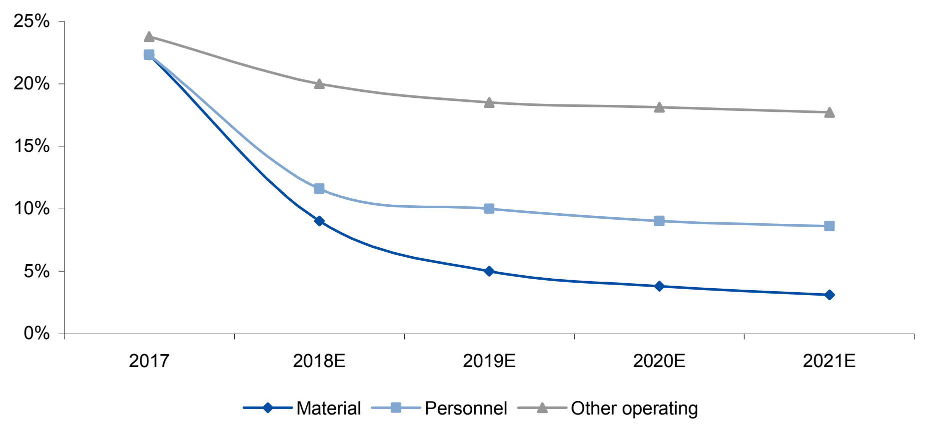
Net income is expected to grow at a similar rate of 95% p.a. on average as we expect the tax rate to **normalise to a level of around 25%** from 18% in 2017. Note that tax loss carry forwards of c. € 6m in total explain why we model a slightly lower tax rate of 23% in 2018E and 2019E.

CYAN: Bottom-line growth 2017-2021E					
€ m	2017	2018E	2019E	2020E	2021E
Gross Profit	**3.2**	**9.2**	**20.3**	**30.3**	**37.8**
Gross profit margin	78%	91%	95%	96%	97%
Personnel expenses	**0.9**	**1.2**	**2.1**	**2.8**	**3.4**
in % of sales	22%	12%	10%	9%	9%
Other operating expenses	**1.0**	**2.0**	**4.0**	**5.7**	**6.9**
in % of sales	24%	20%	19%	18%	18%
Other operating income	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
in % of sales	14%	6%	3%	2%	2%
EBITDA	**1.9**	**6.6**	**14.9**	**22.4**	**28.1**
EBITDA margin	45%	65%	70%	71%	72%
D&A	**0.2**	**0.3**	**0.4**	**0.7**	**1.0**
in % of sales	4%	3%	2%	2%	3%
EBIT	**1.7**	**6.3**	**14.4**	**21.7**	**27.1**
EBIT margin	41%	63%	67%	69%	70%
Financial result	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**
Taxes	**0.3**	**1.5**	**3.3**	**5.4**	**6.8**
Tax rate	18%	23%	23%	25%	25%
Net income	**1.4**	**4.9**	**11.1**	**16.3**	**20.4**
Net margin	34%	48%	52%	52%	52%

Source: Hauck & Aufhäuser expectations

Cost ratios are expected to evolve as follows:

Trend in cost ratios 2017-21E



Source: Hauck & Aufhäuser expectations

- **Material expenses – Strong relative reduction expected / 3% of sales by 2021E**. Material expenses comprise a limited amount of purchased third-party security software (e.g. Avira, ESET, IBM), in our view. We expect strong scalability on this cost position going forward as (1) Incremental growth is seen to come from CYAN's proprietary security filter technology; (2) Needed computing power has been rented and the IT infrastructure has been set up.

- **Personnel expenses – Significant leverage expected / 9% of sales by 2021E**. CYAN's business model is not personnel intensive as it focuses on software for B2B customers and indirect distribution channels. At the same time, the outstanding deal pipeline has already been established; future growth through pipeline execution should hence require little additional personnel resources. Still, we model a slight increase in headcount going forward accounting for some hires in R&D, admin and marketing.

- **Other operating expenses** – **Some leverage expected / 18% of sales by 2021E**. Key expenses include R&D (2017 eH&A: 25-30% of other operating expenses), tax consultant (20-25%), travel (c. 5-10%) and rent (c. 5%), in our view. We expect this ratio to show some scalability but strongly increase in absolute terms especially as **CYAN will have to pay a c**. **15% finder's fee to its sales partners** once a contract with a B2B customer is signed.

Valuation

Our valuation methods derive a price target of € 30.00 for CYAN AG:

- DCF yields a price target of € 30.00
- FCFY indicates a fair value of € 26.20 on halfway 2020E / 2021E

DCF valuation

Our DCF valuation derives a price target of € 30.00 for CYAN AG with the terminal value accounting for 66% of the total value. The key assumptions of our model are:

- **Terminal EBIT margin**: 60%. This compares to a 70% EBIT margin CYAN is expected to achieve in 2021E and 41% EBIT margin the company should generate in 2017E. Our long term EBIT margin assumption reflects the view that **margins will slightly decline over the long-term** as competition should gradually increase.

- **Terminal growth**: 2.5%. The mid-term growth rate is seen at a highly dynamic 14% (2020-25E) as CYAN is expected to execute on its outstanding pipeline. Notably, the pipeline should continue to expand given the company's growing reputation, indirect sales network and personal network of management and shareholders.

- **WACC**: 10% to account for the fact that CYAN has yet to show it can fully capitalise on its highly attractive deal pipeline.

Note that our DCF model includes € 30m estimated net proceeds from the IPO as well as € 28m cash out for the full takeover of CYAN Security Group.

DCF (EUR m) (except per share data and beta)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	Terminal value
NOPAT	4.9	11.1	16.3	20.3	21.8	22.9	24.2	26.1	27.4
Depreciation	0.3	0.4	0.7	1.0	1.4	1.8	2.0	2.2	2.2
Increase/decrease in working capital	-0.9	-2.5	-2.3	-2.0	-1.7	-1.8	-2.0	-2.1	-0.4
Increase/decrease in long-term provisions and accruals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capex	-0.3	-0.7	-1.2	-1.4	-1.6	-1.8	-2.0	-2.2	-2.2
Acquisitions	-28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital increase	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow	**6.0**	**8.4**	**13.5**	**17.9**	**19.9**	**21.1**	**22.2**	**23.9**	**27.0**
Present value	5.7	7.3	10.6	12.8	13.0	12.5	11.9	11.7	165.4
WACC	10%	10%	10%	10%	10%	10%	10%	10%	10%

DCF fair equity value derived from:	
Total present value	**251**
thereof terminal value	66%
Net debt (net cash) at start of year	-0.4
Fair Value (€ m)	**251**
Number of shares	8.4
Fair Value per share (€)	**30.0**

DCF avg. growth and earnings assumptions	
Short term growth (2017-2020)	97%
Medium term growth (2020 - 2025)	14%
Long term growth (2025 - infinity)	2.5%
Terminal year EBIT margin	60%

WACC derived from	
Cost of borrowings before taxes	8.0%
Tax rate	25.0%
Cost of borrowings after taxes	6.6%
Required return on invested capital	10.0%
Risk premium	5.5%
Risk-free rate	1.5%
Beta	1.30

Sensitivity analysis DCF

		Long term growth				
		0%	1.0%	2.5%	2.5%	3.0%
WACC	14.0%	17.8	18.5	19.7	19.7	20.2
	12.0%	20.5	21.5	23.6	23.5	24.3
	10.0%	24.6	26.3	30.0	29.8	31.3
	8.0%	31.2	34.4	41.7	41.5	44.8
	6.0%	43.0	49.9	68.5	67.8	77.7

Sensitivity analysis DCF

		EBIT margin terminal year				
		50.0%	55.0%	60.0%	65.0%	70.0%
WACC	14.0%	18.1	18.9	19.7	20.5	21.3
	12.0%	21.3	22.5	23.6	24.7	25.8
	10.0%	26.6	28.3	30.0	31.6	33.3
	8.0%	36.4	39.1	41.7	44.4	47.0
	6.0%	58.6	63.5	68.5	73.4	78.3

Source: Company data, Hauck & Aufhäuser

Free Cash Flow Yield

Our FCF yield model derives a fair value of € 26.20 based on halfway 2020E / 2021E estimates. To adequately capture at least part of the potential growth, looking at 2020/21E for valuation purposes seems sensible particularly considering that CYAN basically has to "only" execute on its existing deal pipeline to achieve this growth.

The main driver of this model is the level of return available to a controlling investor influenced by the cost of that investor's capital (opportunity costs) and the purchase price – the enterprise value of the company.

Here, the adjusted FCF yield is used as a proxy for the required return and is defined as EBITDA less minority interest, taxes and investments required to maintain existing assets (maintenance capital expenditures).

Put simply, the model assumes that investors require companies to generate a minimum return on the investor's purchase price. The required after tax return equals the model's hurdle rate of 10% which is chosen to account for the risk that CYAN may not capitalise on its attractive sales pipeline to the extent we currently expect. Anything less suggests the stock is expensive; anything more suggests the stock is cheap.

FCF yield, year end Dec. 31		2017	2018E	2019E	2020E	Halfway 20/21E	2021E
EBITDA		**1.9**	**6.6**	**14.9**	**22.4**	**25.2**	**28.1**
- Maintenance capex		0.2	0.3	0.4	0.7	-	1.0
- tax expenses		0.3	1.5	3.3	5.4	-	6.8
= Adjusted Free Cash Flow		**1.4**	**4.9**	**11.1**	**16.3**	**18.3**	**20.3**
Sales		**4.1**	**10.1**	**21.4**	**31.5**	**-**	**39.0**
Hurdle rate		10%	10%	10%	10%	10%	10%
FCF margin		34%	48%	52%	52%	-	52%
Fair EV/sales		3.4x	4.8x	5.2x	5.2x	-	5.2x
Fair EV		**14**	**49**	**111**	**163**	**183**	**203**
- net debt		*-0.4*	*-6.4*	*-14.8*	*-28.3*	-	*-46.2*
Fair Market Cap		**14**	**55**	**126**	**191**	**220**	**250**
Number of shares		8.4	8.4	8.4	8.4	8.4	8.4
Fair value per share (€)		**1.7**	**6.6**	**15.0**	**22.8**	**26.2**	**29.7**
Sensitivity analysis fair value							
	7.5%	2.3	8.5	19.4	29.2	33.5	37.8
Hurdle rate	10.0%	1.7	6.6	15.0	22.8	26.2	29.7
	12.5%	1.4	5.4	12.4	18.9	21.9	24.9
	15.0%	1.2	4.6	10.6	16.3	19.0	21.7

Source: Company data, Hauck & Aufhäuser

Theme

- **CYAN is in the right place at the right time** as cyber attacks increase in frequency and sophistication
- Excellent deal pipeline provides **firm visibility on future growth**
- IPO proceeds used to fully takeover CYAN Security Group GmbH, support the growth strategy in Europe and possibly execute bolt-on acquisitions

The right place at the right time – Cyber attacks on the rise

Mobile cyber attacks are a current topic evidenced by recent incidents at uber, Linkedin and Instagram. According to industry research (Avast), the number of cyber attacks has **soared by 40% yoy to reach 1.7m per month** in 2017.

With cyber attacks likely to remain a recurring theme, **CYAN looks attractively positioned** providing a solution to this threat which should keep the C-suite of many companies awake at night:

The company offers white label “worry-free insurance” with its state-of-the-art security filter. Its technology utilises 23 different analytical methods to screen the entire web for threats such as bad content, identity theft, and malware thus protecting mobile users from cyber attacks.

At the same time, its business model is **uniquely targeting B2B2C** in security-sensitive industries: With the help of CYAN, these can strengthen retail client loyalty and **establish additional revenue streams** – an ever more important topic in times when banks, MNOs and MVNOs are experiencing rising price and margin pressure.

This, coupled with a scalable business model, explains why CYAN is seen to face strong growth prospects and sustainably generate excellent margins and returns.

Outstanding deal pipeline – brisk visibility on growth inflection

Strong growth prospects are underpinned by an excellent deal pipeline. In our view, the current pipeline comprises some 15-20 potential customers offering a total revenue opportunity of € 60m by 2021E in a best-case scenario, in our view (note: not fully reflected in eH&A).

We consider the pipeline to be **proof of concept** that CYAN faces strong prospects in its targeted niche market with a unique B2B2C business model.

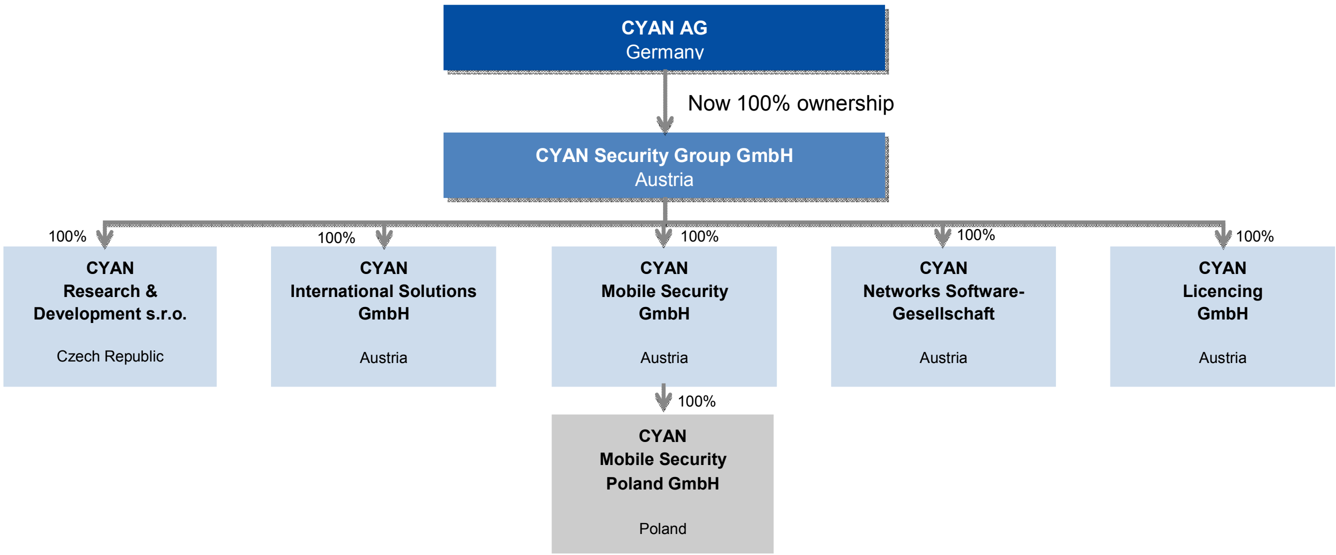
Importantly, this pipeline has basically been set up **prior** to any major growth push by CYAN thanks to the personal network of management and shareholders, distribution efforts by sales partners and CYAN’s growing reputation in the market. **The capital raised from the IPO could be used to accelerate growth even beyond our current expectations**.

IPO rationale

CYAN has raised some **€ 32m** gross proceeds in its recent IPO. Funds are earmarked for:

- **Acquisition of the remaining 49% stake in CYAN Security Group for € 28m**. This was executed in March 2018. Note that CYAN AG is the public entity while CYAN Security Group is the operating entity.

Corporate Structure



Source: Company data; Hauck & Aufhäuser

- The **internationalisation strategy** as Asian and Emerging Markets should present significant growth opportunities for CYAN as evidenced by the existing interest from e.g. AIS in Thailand and Smartfren in Indonesia (eH&A).

- Possible **technology bolt-on acquisitions**. Note that CYAN still licenses some anti virus IP from Avira. We could expect the company to execute technology acquisitions to complement its proprietary security portfolio.

Company Background

History

- **July 2006**: Inception of CYAN Networks Software GmbH. Start of B2B security business for corporate networks. Signs initial contracts with e.g. the Austrian Foreign Ministry.

- **November 2011**: Inception of CYAN Mobile Security GmbH. Start of B2B2C business. Development of integrated security solutions for mobile network operators.

- **July 2013**: Initial B2B2C contract with T-Mobile Austria and introduction of CYAN's "parental control" solution.

- **November 2013**: Additional contract with T-Mobile Austria and introduction of internet security solution.

- **June 2014**: Inception of CYAN Security Group GmbH.

- **January 2015**: CYAN signs corporate contract with Deutsche Telekom AG which specifies commercial aspects regarding business with T-Mobile in different countries.

- **August 2015**: Additional contract with T-Mobile, this time for Poland.

- **December 2015**: Inception of CYAN International Solutions GmbH.

- **November 2016**: CYAN kicks-off development of integrated solution for Mobile Virtual Network Operators.

- **March 2017**: Proof of Concept for MVNO solution with I-New in Mexico.

- **April 2017**: CYAN kicks-off development of security solution for financial services providers like banks. Inception of CYAN AG. Contract with T-Mobile prolonged until 2021. Acquires parts of SysConn GmbH.

- **May 2017**: Finalises development of security solution for financial services providers.

- **September 2017**: Signs contract with MyBucks i.e. initial contract for its new solution targeting financial services providers.

- **December 2017**: Signs contract with Sberbank. Executes capital increase.

- **December 2017**: 25% of CYAN Security Group GmbH brought into CYAN AG via capital increase.

- **December 2017**: Option contract signed to acquire further shares of CYAN Security Group GmbH by CYAN AG.

- **December 2017**: Exercised call option to buy 26% of CYAN Security Group GmbH.

- **March 2018**: IPO at € 23.00 per share.

- **March 2018**: Exercised call option to buy remaining 49% of CYAN Security Group GmbH.

Business model

CYAN AG is a **leader in digital security products** for mobile devices, thanks to its affordable, cutting-edge, scalable and robust software solutions.

The company operates a unique business model: Rather than targeting retail clients directly, it offers white label security solutions to B2B customers. These can then roll out the "worry-free insurance" to their retail user base.

The security solution comes at no cost for B2B customers. Rather, once a retail client opts for protection, they will have to pay a small monthly fee to the B2B provider. In turn, CYAN receives part of the fee from its B2B customer (typically < € 0.50 per month).

As such, **CYAN offers a strong value proposition**:

- B2B customers can offer add-on services to their retail user base thus **strengthening loyalty**.
- Customers can **establish recurring**, **high-margin revenue streams** next to their core business.

Besides this, CYAN's solutions offer (1) High flexibility and scalability; (2) Deep learning capability to get better at detecting threats; (3) Robustness and reliability in the form of a duplicate system to prevent breakdowns and data loss.

Products

CYAN offers two key products:

- **Security**. The company has a security filter which utilises 23 different analytical methods to scan the entire worldwide web for cyber threats including malware, ransom ware, identity theft etc.
- **Data compression**. This solution can block unwanted "background noise" (e.g. phishes, tracker) when surfing the web. It hence allows MVNOs to cut data consumption thus saving costs.

Customers

CYAN predominantly targets security-sensitive customer groups. This includes Financial Services providers, Mobile Network Operators and Mobile Virtual Network Operators. While its security solution is offered to every customer group, the data compression technology focuses exclusively on MVNOs.

Note: MVNOs are wireless communications services providers that do not own the infrastructure over which they provide services. They have to enter in a business agreement with MNOs enjoying extra wireless capacity to obtain bulk access to network services.

MVNOs face a key challenge: Data usage has been dramatically increasing in the last few years (Cisco: 20% yoy data volume growth / up to 50% yoy in selected markets), while its rented wireless network has limited capacity and thus is getting more and more expensive.

Cyan's key customers include T-Mobile in Austria and Poland as well as MyBucks and Sberbank. Importantly, the company has a strong pipeline of secured or high-probability customers which provide brisk visibility on growth. Potential clients include I-New, AIS Thailand, Smartfren, and many more (eH&A).

Research & Development

CYAN can fall back on more than **25 years of experience** regarding software programs which provide a filter to prevent access to certain websites.

Research & Development features prominently: the group has its own R&D centres in Czech Republic and Poland, and collaborates with universities and other R&D centres to maintain its state-of-the-art position. On top of this, two international patents to are pending.

Management

Peter Arnoth
CEO

Mr. Arnoth occupied several managing positions in IT and Logistics, Sales and Business Development. He worked at T-Mobile Austria for almost eight years as well as at E-Plus Mobilfunk. He has been CEO of CYAN AG since late 2011.

Markus Cserna
CTO

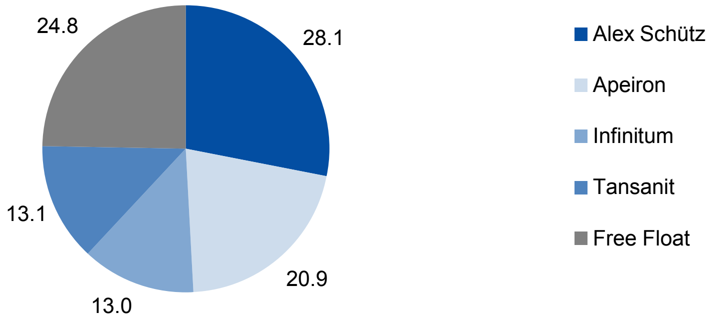
Mr. Cserna has strong experience in IT systems development and maintenance. Before joining CYAN, he worked for Surf Control GmbH where he implemented internet servers, firewalls, and micropayment systems, and developed new IT products. He has founded CYAN Networks Software in 2006, and has been CTO of the subsidiary since then. Further, he is responsible for company-wide R&D.

Michael Sieghart
CFO

Mr. Sieghart has extensive experience in finance. He was Managing Director and Head of EAFE Equities at DWS Investments for twelve years (1997-2009) and Partner and CFO at investment firm Petrus Advisers in London (2011-2017). He joined CYAN AG in January 2018 as CFO.

Shareholder structure

Shareholder structure (in %)



Source: Company data, Hauck & Aufhäuser

Alex Schütz is an Austrian entrepreneur and founder of C-Quadrat, Europe's largest Fund-of-Funds. He is further a supervisory board member of Deutsche Bank.

Apeiron is the Family Office of Mr Christian Angermayer.

Infinitum is the mutual investment vehicle of Mr Schütz and Mr Angermayer.

Tansanit is the investment vehicle of Mr Rudolf Binder, an Austrian entrepreneur with an extensive network especially in Emerging Markets.

Investment risks

- **Pipeline execution** – While CYAN has an excellent deal pipeline, flawless execution is still needed for the company to reach our top- and bottom-line expectations.

- **Rising competition** – CYAN is targeting niche applications with a singular business model focused on B2B customers with white label solutions. Still, it cannot be ruled out that due to outstanding returns competition will intensify and pressure margins to a stronger extent than we currently anticipate.

- **Evolving cyber threats** – CYAN's technology is based on a state-of-the-art security filter which utilises 23 different analytical methods to scan the worldwide web for cyber threats. Still, without adequate R&D investments, there is a risk that cyber threats may evolve and overwhelm the current capabilities of CYAN's security technology.

Financials

Profit and loss (EUR m)	2015	2016	2017E	2018E	2019E	2020E	2021E
Net sales	**3.7**	**3.3**	**4.1**	**10.1**	**21.4**	**31.5**	**39.0**
Sales growth	*n/a*	*-10.5 %*	*23.5 %*	*145.0 %*	*112.0 %*	*47.0 %*	*24.0 %*
Increase/decrease in finished goods and work-in-process	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total sales	**3.7**	**3.3**	**4.1**	**10.1**	**21.4**	**31.5**	**39.0**
Other operating income	0.1	0.3	0.6	0.6	0.6	0.6	0.6
Material expenses	0.8	0.9	0.9	0.9	1.1	1.2	1.2
Personnel expenses	0.6	0.8	0.9	1.2	2.1	2.8	3.4
Other operating expenses	0.6	0.8	1.0	2.0	4.0	5.7	6.9
Total operating expenses	1.9	2.2	2.3	3.5	6.5	9.1	10.9
EBITDA	**1.8**	**1.2**	**1.9**	**6.6**	**14.9**	**22.4**	**28.1**
Depreciation	0.0	0.0	0.0	0.1	0.1	0.2	0.3
EBITA	**1.8**	**1.2**	**1.9**	**6.6**	**14.8**	**22.2**	**27.9**
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.1	0.2	0.2	0.4	0.5	0.8
Impairment charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT (inc revaluation net)	**1.8**	**1.1**	**1.7**	**6.3**	**14.4**	**21.7**	**27.1**
Interest income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other financial result	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial result	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recurring pretax income from continuing operations	**1.8**	**1.1**	**1.7**	**6.3**	**14.4**	**21.7**	**27.2**
Extraordinary income/loss	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Earnings before taxes	**1.8**	**1.1**	**1.7**	**6.3**	**14.4**	**21.7**	**27.2**
Taxes	0.4	0.3	0.3	1.5	3.3	5.4	6.8
Net income from continuing operations	**1.4**	**0.9**	**1.4**	**4.9**	**11.1**	**16.3**	**20.4**
Result from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	**1.4**	**0.9**	**1.4**	**4.9**	**11.1**	**16.3**	**20.4**
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit (reported)	**1.4**	**0.9**	**1.4**	**4.9**	**11.1**	**16.3**	**20.4**
Average number of shares	8.4	8.4	8.4	8.4	8.4	8.4	8.4
EPS reported	**0.16**	**0.10**	**0.17**	**0.58**	**1.32**	**1.94**	**2.43**

Profit and loss (common size)	2015	2016	2017E	2018E	2019E	2020E	2021E
Net sales	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**
Increase/decrease in finished goods and work-in-process	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Total sales	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**
Other operating income	2.8 %	8.2 %	13.8 %	6.0 %	3.0 %	2.0 %	1.5 %
Material expenses	21.5 %	27.0 %	22.3 %	9.0 %	5.0 %	3.8 %	3.1 %
Personnel expenses	16.7 %	23.0 %	22.3 %	11.6 %	10.0 %	9.0 %	8.6 %
Other operating expenses	15.9 %	23.1 %	23.8 %	20.0 %	18.5 %	18.1 %	17.7 %
Total operating expenses	51.3 %	64.9 %	54.6 %	34.6 %	30.5 %	28.9 %	27.9 %
EBITDA	**48.7 %**	**35.1 %**	**45.4 %**	**65.4 %**	**69.5 %**	**71.1 %**	**72.1 %**
Depreciation	0.0 %	0.0 %	0.0 %	0.5 %	0.4 %	0.5 %	0.6 %
EBITA	**48.7 %**	**35.1 %**	**45.4 %**	**64.9 %**	**69.1 %**	**70.6 %**	**71.5 %**
Amortisation of goodwill	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Amortisation of intangible assets	1.0 %	1.6 %	4.2 %	2.2 %	1.6 %	1.6 %	1.9 %
Impairment charges	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
EBIT (inc revaluation net)	**47.6 %**	**33.5 %**	**41.2 %**	**62.7 %**	**67.4 %**	**69.0 %**	**69.5 %**
Interest income	0.1 %	-0.1 %	0.0 %	0.0 %	0.0 %	0.1 %	0.1 %
Interest expenses	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Other financial result	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Financial result	0.1 %	-0.1 %	0.0 %	0.0 %	0.0 %	0.1 %	0.1 %
Recurring pretax income from continuing operations	**47.7 %**	**33.4 %**	**41.2 %**	**62.8 %**	**67.5 %**	**69.1 %**	**69.6 %**
Extraordinary income/loss	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Earnings before taxes	**47.7 %**	**33.4 %**	**41.2 %**	**62.8 %**	**67.5 %**	**69.1 %**	**69.6 %**
Tax rate	22.4 %	22.9 %	17.7 %	23.0 %	23.0 %	25.0 %	25.0 %
Net income from continuing operations	**37.0 %**	**25.8 %**	**33.9 %**	**48.3 %**	**52.0 %**	**51.8 %**	**52.2 %**
Income from discontinued operations (net of tax)	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Net income	**37.0 %**	**25.8 %**	**33.9 %**	**48.3 %**	**52.0 %**	**51.8 %**	**52.2 %**
Minority interest	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Net profit (reported)	**37.0 %**	**25.8 %**	**33.9 %**	**48.3 %**	**52.0 %**	**51.8 %**	**52.2 %**

Source: Company data, Hauck & Aufhäuser

Balance sheet (EUR m)	2015	2016	2017E	2018E	2019E	2020E	2021E
Intangible assets	**0.0**	**0.5**	**0.4**	**28.3**	**28.5**	**28.7**	**28.9**
Property, plant and equipment	0.0	0.0	0.0	0.1	0.2	0.4	0.7
Financial assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIXED ASSETS	**0.1**	**0.5**	**0.4**	**28.4**	**28.7**	**29.2**	**29.6**
Inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts receivable	0.7	1.0	0.6	1.6	4.1	6.5	8.5
Other current assets	0.5	0.2	0.5	0.5	0.5	0.9	1.9
Liquid assets	1.1	0.9	0.4	6.4	14.8	28.3	46.2
Deferred taxes	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Deferred charges and prepaid expenses	0.5	0.6	0.2	0.2	0.2	0.2	0.2
CURRENT ASSETS	2.8	2.8	1.8	8.7	19.6	36.0	56.9
TOTAL ASSETS	**2.9**	**3.3**	**2.2**	**37.1**	**48.3**	**65.1**	**86.5**
SHAREHOLDERS EQUITY	0.2	0.0	0.3	36.1	46.6	62.3	81.7
MINORITY INTEREST	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other provisions	0.6	0.4	0.3	0.3	0.6	1.2	2.4
Non-current liabilities	**0.6**	**0.4**	**0.3**	**0.3**	**0.6**	**1.2**	**2.4**
short-term liabilities to banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	0.2	0.6	0.0	0.1	0.1	0.2	0.2
Advance payments received on orders	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities (incl. from lease and rental contracts)	1.1	1.0	1.0	0.0	0.0	0.0	0.0
Deferred taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred income	0.9	1.2	0.7	0.7	1.0	1.5	2.2
Current liabilities	**2.1**	**2.8**	**1.6**	**0.7**	**1.1**	**1.6**	**2.4**
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	**2.9**	**3.3**	**2.2**	**37.1**	**48.3**	**65.1**	**86.5**

Balance sheet (common size)	2015	2016	2017E	2018E	2019E	2020E	2021E
Intangible assets	**1.4 %**	**15.2 %**	**18.3 %**	**76.3 %**	**59.0 %**	**44.1 %**	**33.4 %**
Property, plant and equipment	1.6 %	0.9 %	1.3 %	0.2 %	0.4 %	0.7 %	0.8 %
Financial assets	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
FIXED ASSETS	**3.0 %**	**16.1 %**	**19.6 %**	**76.5 %**	**59.4 %**	**44.8 %**	**34.2 %**
Inventories	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Accounts receivable	25.4 %	31.9 %	29.2 %	4.3 %	8.5 %	9.9 %	9.9 %
Other current assets	16.6 %	5.2 %	21.2 %	1.3 %	1.0 %	1.4 %	2.2 %
Liquid assets	37.0 %	28.0 %	17.7 %	17.2 %	30.6 %	43.4 %	53.4 %
Deferred taxes	0.0 %	2.1 %	1.5 %	0.1 %	0.1 %	0.0 %	0.0 %
Deferred charges and prepaid expenses	18.0 %	16.9 %	10.8 %	0.6 %	0.5 %	0.4 %	0.3 %
CURRENT ASSETS	97.0 %	84.0 %	80.4 %	23.5 %	40.6 %	55.2 %	65.8 %
TOTAL ASSETS	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**
SHAREHOLDERS EQUITY	7.5 %	1.1 %	12.4 %	97.3 %	96.5 %	95.7 %	94.5 %
MINORITY INTEREST	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Long-term debt	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Provisions for pensions and similar obligations	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Other provisions	20.4 %	13.7 %	14.0 %	0.8 %	1.2 %	1.8 %	2.7 %
Non-current liabilities	**20.4 %**	**13.7 %**	**14.0 %**	**0.8 %**	**1.2 %**	**1.8 %**	**2.7 %**
short-term liabilities to banks	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Accounts payable	6.5 %	18.3 %	1.0 %	0.2 %	0.2 %	0.3 %	0.3 %
Advance payments received on orders	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Other liabilities (incl. from lease and rental contracts)	36.4 %	29.1 %	43.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Deferred taxes	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Deferred income	29.2 %	37.9 %	29.6 %	1.8 %	2.0 %	2.3 %	2.6 %
Current liabilities	**72.0 %**	**85.3 %**	**73.6 %**	**1.9 %**	**2.3 %**	**2.5 %**	**2.8 %**
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**

Source: Company data, Hauck & Aufhäuser

Cash flow statement (EUR m)	2015	2016	2017E	2018E	2019E	2020E	2021E
Net profit/loss	1.8	1.1	1.5	4.9	11.1	16.3	20.4
Depreciation of fixed assets (incl. leases)	0.0	0.1	0.2	0.1	0.1	0.2	0.3
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.2	0.4	0.5	0.8
Others	0.0	-0.4	-0.5	0.0	0.0	0.0	0.0
Cash flow from operations before changes in w/c	1.8	0.7	1.1	5.1	11.6	17.0	21.4
Increase/decrease in inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase/decrease in accounts receivable	0.1	-0.1	0.5	-0.9	-2.5	-2.4	-2.1
Increase/decrease in accounts payable	-0.3	0.3	-1.2	0.0	0.1	0.1	0.0
Increase/decrease in other working capital positions	-0.1	0.0	0.2	0.0	0.0	0.0	0.0
Increase/decrease in working capital	-0.3	0.2	-0.5	-0.9	-2.5	-2.3	-2.0
Cash flow from operating activities	**1.5**	**1.0**	**0.6**	**4.2**	**9.1**	**14.6**	**19.3**
CAPEX	0.1	0.1	0.1	0.3	0.7	1.2	1.4
Payments for acquisitions	0.0	0.0	0.0	28.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investing activities	**-0.1**	**-0.1**	**-0.1**	**-28.3**	**-0.7**	**-1.2**	**-1.4**
Cash flow before financing	1.5	0.9	0.5	-24.0	8.4	13.5	17.9
Increase/decrease in debt position	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	30.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	-0.8	-1.0	-1.0	0.0	0.0	0.0	0.0
Effects of exchange rate changes on cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing activities	**-0.8**	**-1.0**	**-1.0**	**30.0**	**0.0**	**0.0**	**0.0**
Increase/decrease in liquid assets	0.7	-0.2	-0.5	6.0	8.4	13.5	17.9
Liquid assets at end of period	**1.1**	**0.9**	**0.4**	**6.4**	**14.8**	**28.3**	**46.2**

Source: Company data, Hauck & Aufhäuser

Regional split (EUR m)	2015	2016	2017E	2018E	2019E	2020E	2021E
Domestic	3.7	3.3	3.9	4.5	4.7	4.9	5.7
yoy change	n/a	-10.5 %	17.5 %	15.1 %	4.1 %	3.4 %	17.0 %
Rest of Europe	0.0	0.0	0.2	4.0	11.3	18.1	23.0
yoy change	n/a	n/a	n/a	1880.0 %	184.3 %	60.6 %	27.1 %
NAFTA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
yoy change	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Asia Pacific	n/a	n/a	n/a	n/a	n/a	n/a	n/a
yoy change	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rest of world	0.0	0.0	0.0	1.6	5.4	8.5	10.3
yoy change	n/a	n/a	n/a	n/a	235.2 %	56.5 %	21.4 %
TTL	**3.7**	**3.3**	**4.1**	**10.1**	**21.4**	**31.5**	**39.0**
yoy change	n/a	-10.5 %	23.5 %	145.0 %	112.0 %	47.0 %	24.0 %

Source: Company data, Hauck & Aufhäuser

Key ratios (EUR m)	2015	2016	2017E	2018E	2019E	2020E	2021E
P&L growth analysis							
Sales growth	n/a	-10.5 %	23.5 %	145.0 %	112.0 %	47.0 %	24.0 %
EBITDA growth	n/a	-35.4 %	59.5 %	253.1 %	125.3 %	238.8 %	89.1 %
EBIT growth	n/a	-37.1 %	51.8 %	273.3 %	127.9 %	243.0 %	87.9 %
EPS growth	n/a	-37.7 %	62.3 %	249.5 %	128.0 %	234.2 %	83.2 %
Efficiency							
Total operating costs / sales	51.3 %	64.9 %	54.6 %	34.6 %	30.5 %	28.9 %	27.9 %
Sales per employee	93.2	83.4	103.0	234.7	389.1	449.4	484.6
EBITDA per employee	45.4	29.3	46.7	153.5	270.4	319.5	349.4
Balance sheet analysis							
Avg. working capital / sales	14.8 %	14.9 %	13.0 %	10.7 %	12.9 %	12.4 %	15.8 %
Inventory turnover (sales/inventory)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade debtors in days of sales	72.5	114.4	57.3	57.3	70.0	75.0	80.0
A/P turnover [(A/P*365)/sales]	18.4	65.8	2.0	2.0	2.0	2.0	2.0
Cash conversion cycle (days)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cash flow analysis							
Free cash flow	1.5	0.9	0.5	4.0	8.4	13.5	17.9
Free cash flow/sales	40.2 %	27.4 %	11.6 %	39.6 %	39.3 %	42.9 %	45.9 %
FCF / net profit	108.5 %	106.3 %	34.3 %	81.9 %	75.6 %	82.8 %	87.9 %
Capex / depn	130.6 %	92.7 %	46.6 %	92.6 %	159.1 %	176.9 %	142.6 %
Capex / maintenance capex	0.0 %	0.0 %	0.0 %	37.0 %	45.5 %	61.5 %	49.6 %
Capex / sales	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Security							
Net debt	-1.1	-0.9	-0.4	-6.4	-14.8	-28.3	-46.2
Net Debt/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net debt / equity	-4.9	-26.6	-1.4	-0.2	-0.3	-0.5	-0.6
Interest cover	999.0	999.0	999.0	999.0	999.0	999.0	999.0
Dividend payout ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Asset utilisation							
Capital employed turnover	4.6	6.9	7.1	0.3	0.5	0.5	0.5
Operating assets turnover	6.2	7.0	6.3	6.3	5.1	4.7	4.3
Plant turnover	77.8	111.2	139.8	127.0	112.9	71.6	56.9
Inventory turnover (sales/inventory)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Returns							
ROCE	217.8 %	172.0 %	318.0 %	34.2 %	34.5 %	43.5 %	41.3 %
ROE	629.5 %	2492.8 %	509.5 %	13.5 %	23.9 %	26.2 %	24.9 %
Other							
Interest paid / avg. debt	n/a	n/a	n/a	n/a	n/a	n/a	n/a
No. employees (average)	40	40	40	43	55	70	81
Number of shares	8.4	8.4	8.4	8.4	8.4	8.4	8.4
DPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPS reported	0.16	0.10	0.17	0.58	1.32	1.94	2.43
Valuation ratios							
P/BV	765.5	4866.3	612.9	4.7	3.6	2.7	2.1
EV/sales	44.7	50.1	40.7	16.0	7.2	4.4	3.1
EV/EBITDA	91.9	142.5	89.6	24.5	10.3	6.2	4.3
EV/EBITA	91.9	142.5	89.6	24.7	10.4	6.3	4.4
EV/EBIT	93.9	149.5	98.8	25.5	10.6	6.4	4.5
EV/FCF	111.3	182.7	350.3	40.4	18.2	10.3	6.8
Adjusted FCF yield	0.8 %	0.5 %	0.8 %	3.0 %	7.3 %	11.7 %	16.7 %
Dividend yield	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

Source: Company data, Hauck & Aufhäuser

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Company	Disclosure
CYAN AG	2, 3, 6, 8

Historical target price and rating changes for CYAN AG in the last 12 months

Initiation coverage

05-July-2018

Company	Date	Analyst	Rating	Target price	Close
CYAN AG	05-July-18	Tim Wunderlich, CFA	Buy	30.00	

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Buy	60.78 %	95.24 %
Sell	13.73 %	0.00 %
Hold	25.49 %	4.76 %

Date of publication creation: 05/07/2018 05:19 PM

Date of publication dissemination: 05/07/2018 05:35 PM

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