

# CORERO NETWORK SECURITY PLC (LON:CNS)

📌 Gathering pace

## YEAR-TO-DATE PROGRESSING STRONGLY

Corero Network Security Plc (LON:CNS) H1 results release (14/092017) showed strong progress, with revenue up 51% for the flagship SmartWall product. Perhaps even more importantly the recurring revenue element for SmartWall was up 177%. This reinforces the growth profile going forward because licence fee income grows cumulatively as new customers are added.

We believe these results demonstrate that the company has essentially completed its transition from a software generalist to a DDoS protection specialist, and that the SmartWall DDoS protection product continues rapidly gaining traction in the market.

In this report we review the progress of the group. We also revisit some of the fundamental drivers, and how the DDoS protection market functions. We argue that SmartWall's real-time threat mitigation represents a disruptive new presence in the space.

## KEY INVESTMENT THEMES

Among the main attractions of Corero Network Security Plc (LON:CNS) as an investment:

- A highly differentiated product in SmartWall which offers game-changing performance compared with anything else in the market place.
- Substantial headroom for further market share gains, within a continuously growing end market for DDoS protection.
- An expanding range of channels to market, and technology partners including Juniper Networks, Gigamon, and McAfee to extend Corero Network Security Plc (LON:CNS) market reach.
- Support of a shareholder base that includes specialist institutions such as Miton and Herald Investment Management, and also the Chairman and principal shareholder Jens Montanana.

In this report we examine some of these themes in more detail.

## INVESTMENT CONCLUSION

The shares have gained 81% since the successful fund raising in April. Still, looking forward we believe the company could reach revenues of \$50m in 3-5 years. This would imply a market cap of £115m based on peer-group multiples (e.g. Radware, RDWR:NSQ), with no further fundraising required in our view, or 4x upside from the current level. If Corero continues to deliver on milestones, there is still everything to play for here for investors.

y/e December	2015	2016	2017e
Revenue (\$m)	8.3	8.8	11.8
EBITDA (\$m)	-6.4	-5.1	-3.8
Net cash/(debt) (\$m)	2.7	2.9	1.5

Source: Capital Network

## SOFTWARE & COMPUTER SERVICES

15/09/2017

SHARE PRICE

▲ 9.12p

52 WEEK LOW

▲ 4.75p

MARKET CAP

▲ £28.8m

52 WEEK HIGH

▲ 13.5p

NAV

▲ £20.9m

NET CASH

▲ £5.1m

## MAJOR SHAREHOLDERS

- 1) Jens Montanana – 43.8%
- 2) Miton UK Microcap Trust – 8.9%
- 3) Richard Koch – 8.4%

Shares in Issue 315.6m

Avg Volume 52010

Primary index AIM

EPIC CNS.L

Next Key Financial year closes Dec

Announcement 31<sup>st</sup> 2017

Sector Software & Computer Services

## SHARE PRICE CHART



**Important:** All disclaimer information can be found on the last page of this document. Please note that this publication has been commissioned by the company to which this publication relates and therefore it cannot be considered independent.

### Company Information

Address: Regus House, Uxbridge UB8 1HR  
Website: www.corero.com

### Analyst Details

Ed Stacey  
ed.stacey@capitalnetwork.com  
+44 (0)20 7264 3921

## PROGRESS IN H1

Corero has delivered a strong first-half result for 2017, with SmartWall customer numbers reaching 77, from 64 at FY 2016. The company reported revenues of \$4.8m (2016H1: \$4.8m) within which SmartWall revenues were up 51%. Net cash stands at \$5.1m following the successful capital raising in April.

Perhaps most important for the investment case is the list of commercial milestones delivered in H1:

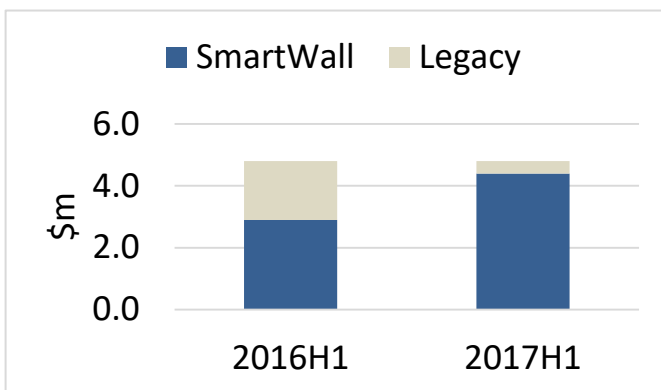
- Feb-2017: Technology Alliance Partnership with Juniper Networks provides a strong technology reference for SmartWall.
- Apr-2017: Well supported equity issuance to support continued growth.
- Apr-2017: Global tier-1 ISP GTT Communications selects SmartWall under the DDPaaS model (see p7 for explanation of this innovative service delivery model).
- May-2017: Top 10 hosting services provider, expands its SmartWall contract to become the second \$1m+ customer for SmartWall.
- June-2017: \$0.4m contract win with a US Federal Government agency.

The ongoing rollout of the DDPaaS business model, as well as other recurring (licence) revenue was an important feature. This leads to a reduction in upfront revenue, but an increase in the value of the contract over its life. It also reinforces the growth profile, as licence income grows cumulatively as more customers are added.

We believe that the main driver for the Corero share price in the coming 1-2 years will be the sales progress of the SmartWall product, as this is now the entire strategic focus of the group. The following charts show that SmartWall continues to expand rapidly.

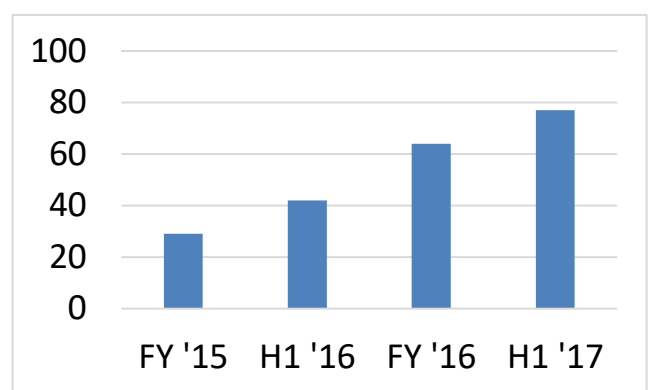
In the rest of this research report, we focus on the drivers which we believe have enabled SmartWall to achieve rapid growth, and the reasons that we believe these drivers will continue in the next few years.

Corero group revenues



Source: Company Data

Number of SmartWall customers



Source: Company Data

## THE DDOS PROTECTION MARKET

Distributed Denial of Service (DDoS) attacks are a growing issue affecting Internet Service Providers (ISPs) and hosting services, and a variety of digital enterprises including banking, gaming, and online media. These attacks work by overwhelming a network with a high volume of spurious and malicious requests, and cannot be blocked using firewalls or anti-virus systems.

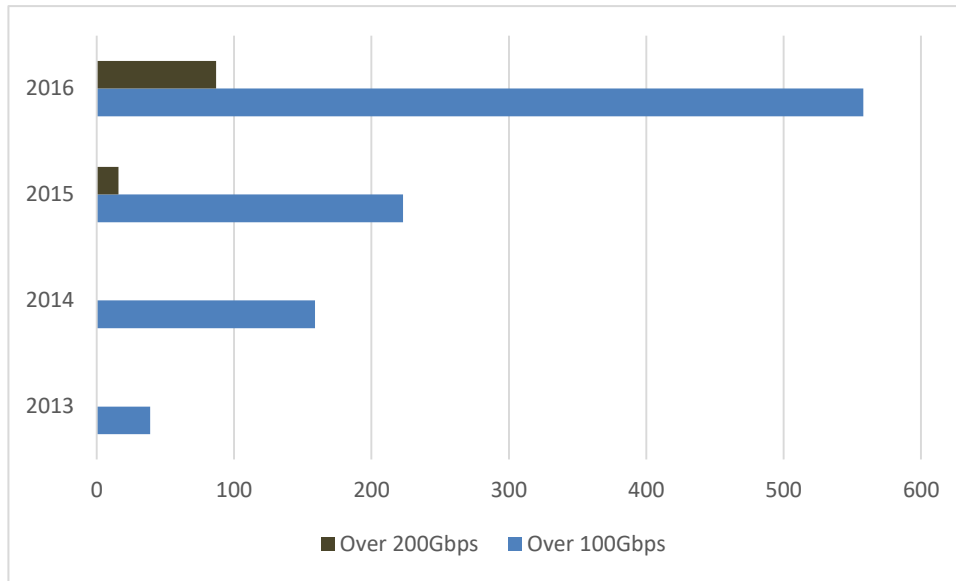
The “Distributed” element of a DDoS attack refers to the fact that these attacks come from, or appear to come from, multiple IP addresses, sometimes thousands, making it difficult to shut down the source of the malicious traffic. Ways of achieving this include IP address spoofing (creating fake IP addresses) or the use of “botnets” which hijack web-connected devices and use them to conduct DDoS attacks.

Traditional DDoS attack mitigation systems work by shutting down network traffic and then running filters to isolate and block out the sources of malicious traffic, a process which can lead to network downtime of up to 20 to 30 minutes (Corero’s SmartWall system is much faster, as we will discuss). Motivations for the attacks include:

- Blackmail – pay us to stop attacking
- Political grievances
- Nihilistic vandalism
- Smokescreening for data theft as in the TalkTalk data theft incident.

The following chart shows the increase in DDoS attacks in recent years, both in terms of the numbers of large attacks and the emergence of larger super-sized attacks.

Number of DDoS attacks recorded per year

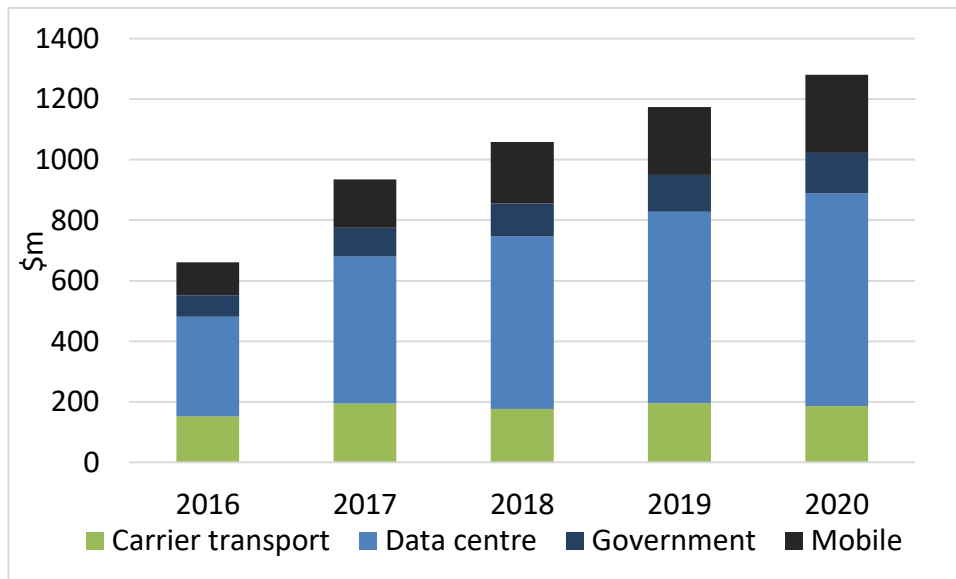


Source: Arbor Networks

The growth in the market for DDoS protection systems is driven not only by increases in the volume of attacks, but also by an expanding universe of customers – Internet Service Providers, cloud hosting and other hosting services, as well as vulnerable digital enterprises.

The following chart shows the growth in the market for DDoS protection, with a CAGR of 13% over the period.

Market for DDoS protection systems and services



Source: IHS research

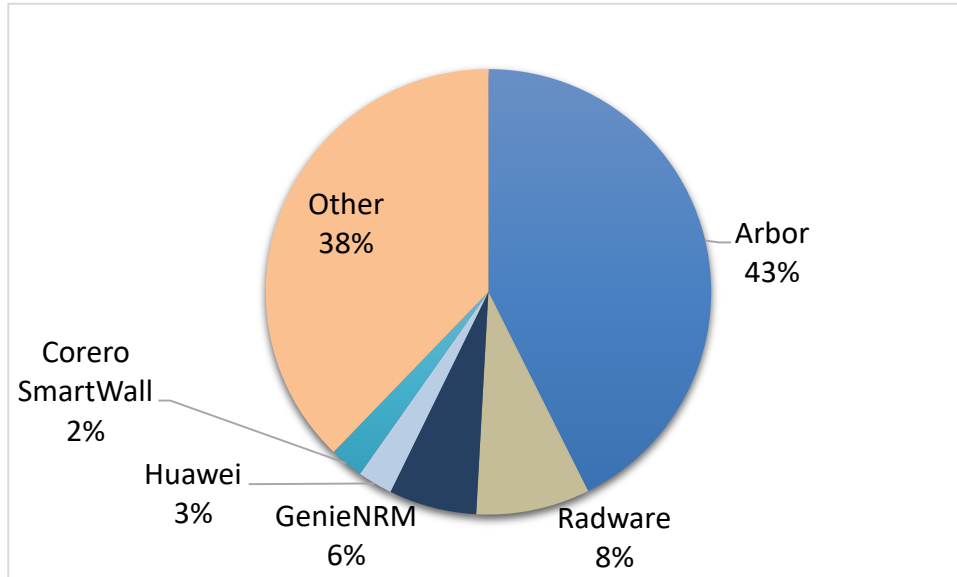
We conclude that the DDoS protection market space represents a growing opportunity.

But more importantly for Corero, the company is rapidly increasing its market share, due to the unique capabilities of the SmartWall offering.

## COMPETITIVE LANDSCAPE

The following chart summarises the competitive landscape, which is comprised of niche DDoS specialists rather than the global software giants.

Market shares in DDoS protection

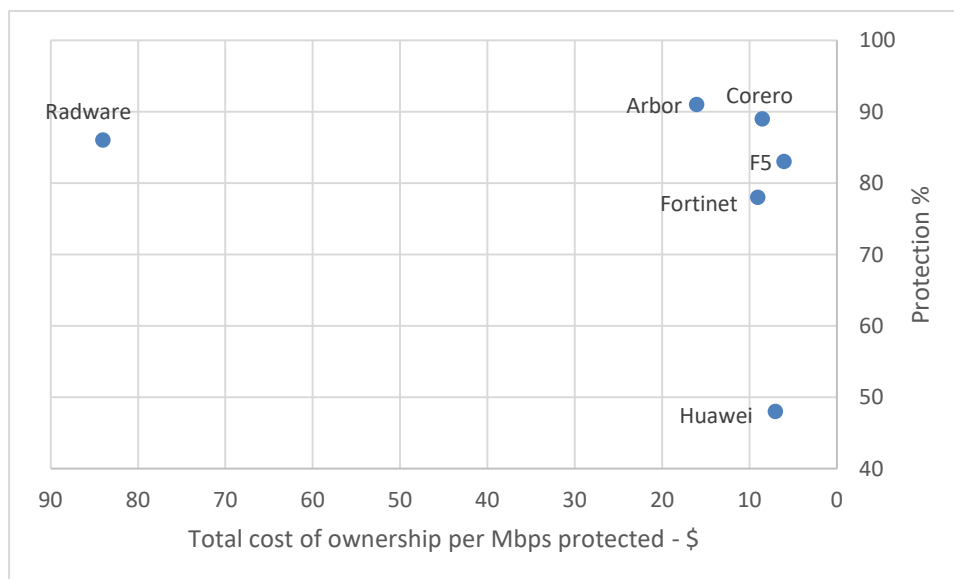


Source: IHS Research

Corero's SmartWall system remains small in terms of overall market share, as a relative new entrant. But there have been good market-share gains in 2015 and 2016, which we attribute to the system's ability to deliver real-time incident resolution. The opportunity for Corero is to capture a meaningful portion of the market (with a medium term management target of 5 to 10%).

We believe that the very rapid growth for SmartWall in 2015, 2016 and H1-2017 has been largely due to strong technical attributes which the product offers. The following scattergram comes from NSS Labs, which is widely regarded as the gold-standard in IT testing. Corero SmartWall received its "recommended" rating from NSS in March 2016.

Cost versus effectiveness



Source: NSS labs

The chart shows Corero SmartWall in the top right-hand corner, the right place to be. This suggests that SmartWall is offering a level of protection comparable to Arbor, which is the market leader in volume terms, but at a significantly lower price. But even this does not tell the full story.

Arbor does not offer a real-time threat defence solution, but instead uses a monitored system which can take longer to effect an intervention (10-30 minutes). The SmartWall system offers full network recovery in less than 1 second. This is a big commercial consideration for ISPs and hosting services whose customers can be losing money every minute that service is down.

It is our understanding that the only other vendor claiming to offer real-time attack mitigation is Radware, although Corero contends that SmartWall's mitigation speed is unrivalled. But even if Radware is as fast as SmartWall, the NSS data above suggest that pricing of Radware is almost 10x higher.

Corero argues that the market share gains for SmartWall have come about because the product is simply a game-changer. The NSS analysis and the impressive sign-ups of new customers ytd support this conclusion, in our view.

## CUSTOMER LANDSCAPE

We next consider the customer landscape, broken into three main segments – Internet Service Providers, hosting services, and digital enterprises.

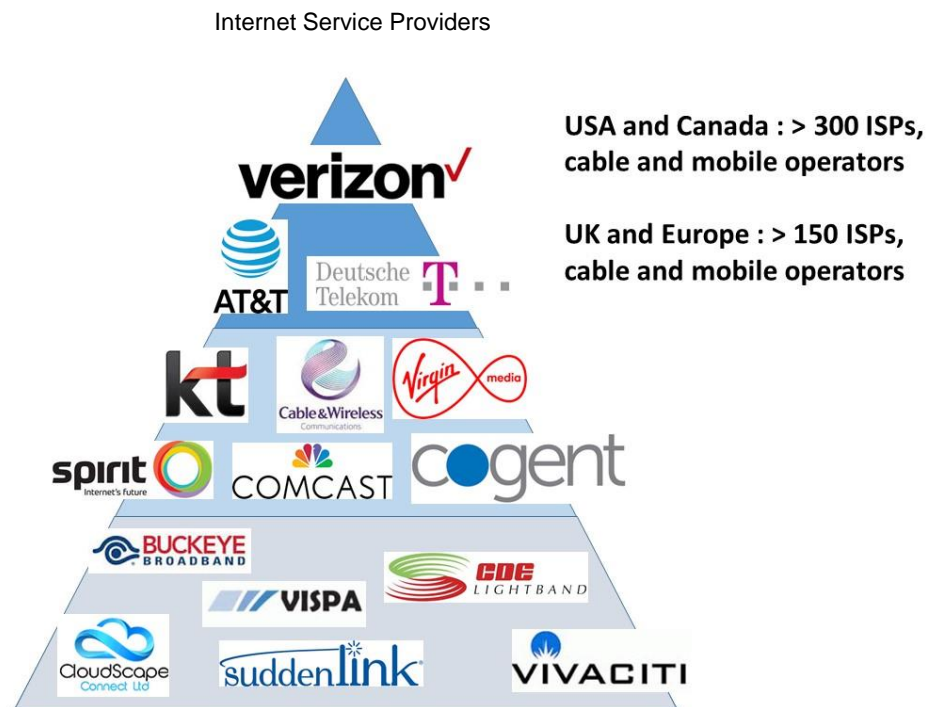
### Internet Service Providers, cable and mobile operators

ISPs are often segmented into three tiers:

- Tier 1 ISPs – capable of reaching every other network on the internet via settlement-free peering.
- Tier 2 ISPs – capable of peering directly with other networks, but also achieves some connections but purchasing transit from a Tier 1 network.
- Tier 3 – always purchasing transit from other networks.

For our purposes the strict definition of Tier2/Tier3 is not important. Relatively small Tier2 players in regional or niche industry markets, together with the Tier3 players, account for a growing segment of the overall market.

The following schematic gives some examples of names that make up the different segments of the market. This is NOT a list of Corero's customers, who often choose not to be identified, but just a snapshot of the customer universe.



Source: Capital Network

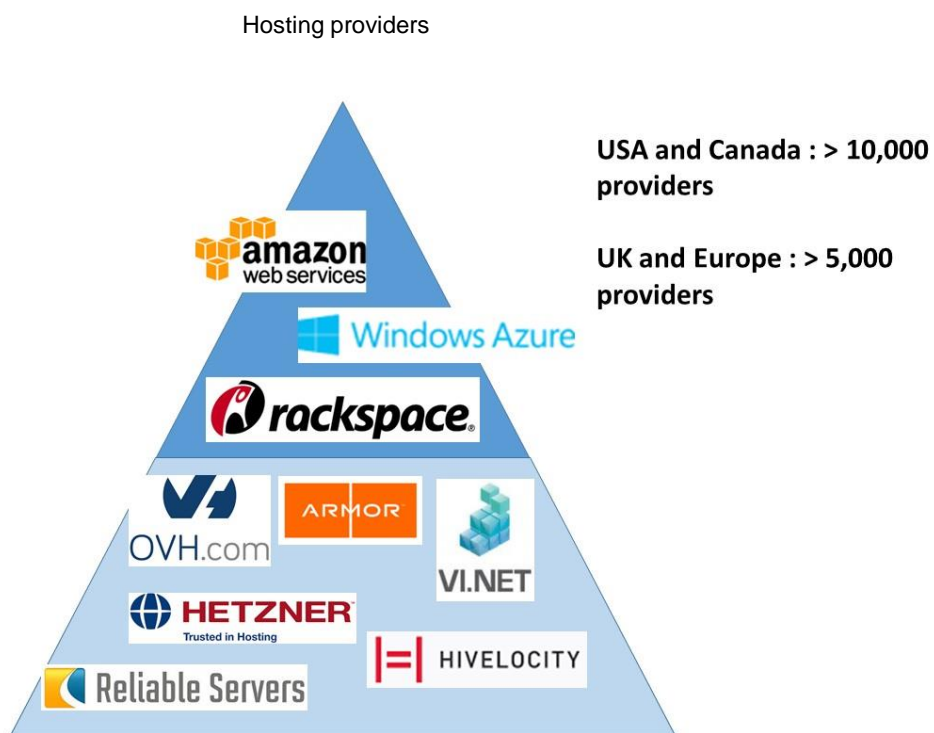
Corero has increased its focus on the smaller players during 2016 and 2017. Although the Tier1 ISP customer base will remain important, we believe that the increased focus on Tier2/Tier3 makes sense, both in regards to the growth of the customer base at this level, and in terms of the faster sales cycle when dealing with these players (quicker decision making).

## HOSTING SERVICES

The universe of internet hosting services is another customer base that continues to expand. Types of hosting services include:

- **Infrastructure as a Service (IaaS)** – Offers users access to computing resources such as virtual machines, as a subscriber service.
- **Software as a Service (SaaS)** – Many software vendors now allow customers to use software via the cloud as a subscription service. Hosting services provide the physical infrastructure for the SaaS software vendor to service their customers.

The following schematic gives some examples of names that make up the different segments of the market. This is NOT a list of Corero's customers, who often choose not to be identified, but just a snapshot of the customer universe.



Source: Capital Network

## DIGITAL ENTERPRISES

Aside from the ISPs and hosting providers, the final customer group we consider are digital enterprises. Segments that are particularly vulnerable to DDoS attacks include online gaming and online gambling enterprises, banks, and internet media.

The three customer groups we've discussed, and their various subsegments, all have different characteristics in terms of the types of contract that they prefer and the channels they use to source their internet protection.

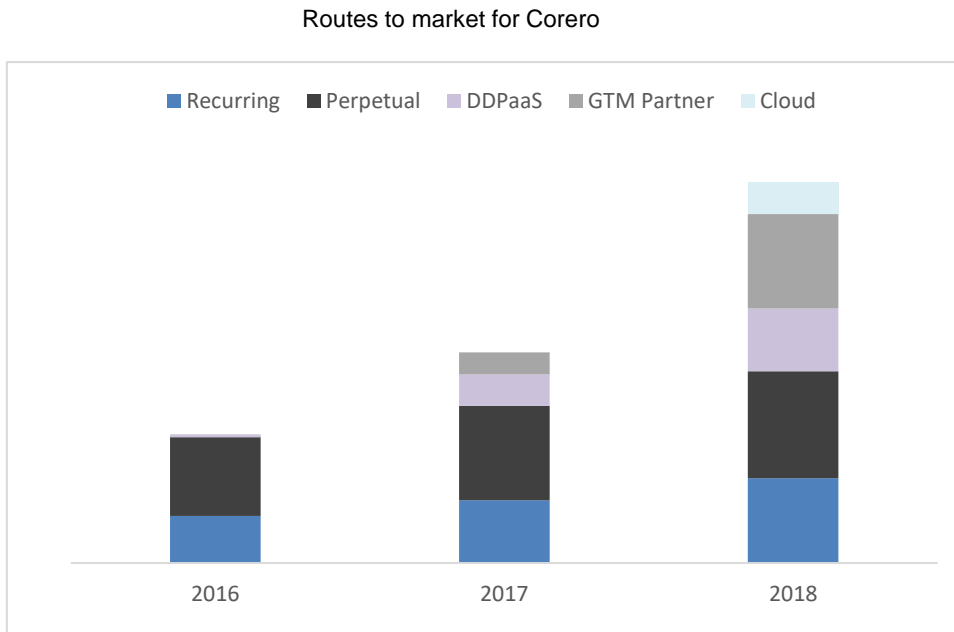
In the next segment we discuss Corero's various routes to market, and the overall growth prospects for SmartWall revenues.

## REVENUE PROGRESS, PATH TO PROFIT

Corero continues to develop new ways to deliver its service to the customer. The different offerings are as follows:

- Perpetual/recurring.** The SmartWall product is delivered as a hardware product with embedded software. The hardware is essentially a slim-line server, procured by Corero from a third-party vendor, with the SmartWall software being the real value-add. Customers can either take this as a perpetual purchase – pay up front for the system, with a separate support service contract, or take the system under a licencing agreement (recurring revenue).
- DDoS Protection as a Service.** This uses the same actual mode of delivery for the DDoS protection (hardware with embedded software), but the recipient is an ISP or hosting service, who does not pay anything for the product. Instead they offer to switch on the protection for their individual end customers as a premium service. Corero’s revenue in this offering is a fixed monthly subscription fee to use the SmartWall technology (ownership remains with Corero), a revenue share based on what the end user customers pay or a combination of both. The SmartWall system is easily scalable to expand protection as the ISP signs up more premium customers. For the ISP, the DDoS protection has become a revenue driver instead of a cost.
- Go-To-Market partners.** Again the same mode of delivery, different way of selling. The partners are typically network infrastructure vendors, who will offer SmartWall as part of their package to their customers.
- Cloud.** This is a whole new mode of delivery, which Corero expects to offer starting from 2018. The company is developing a virtual SmartWall that can be accessed without installing hardware. This could provide a new level of flexibility for reaching some customer groups.

The following chart gives an indicative view of how these different routes to market add to Corero’s revenues.

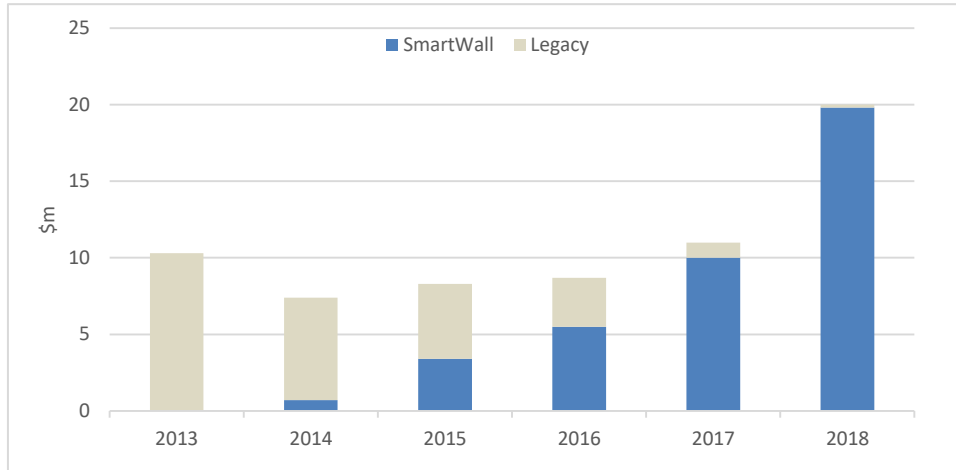


Source: Company Data, vertical scaling illustrative only

With the combination of a growing end-market, and a growing market share due innate competitive advantage of the product and expanding routes to market, we believe that SmartWall revenues will continue to grow strongly in the coming years. The following chart shows our forecast for Corero’s revenues.

The “Legacy” product is an Intrusion Prevention System which was part of the business before the decision was taken to focus on DDoS mitigation. This revenue stream become de minimis from 2018.

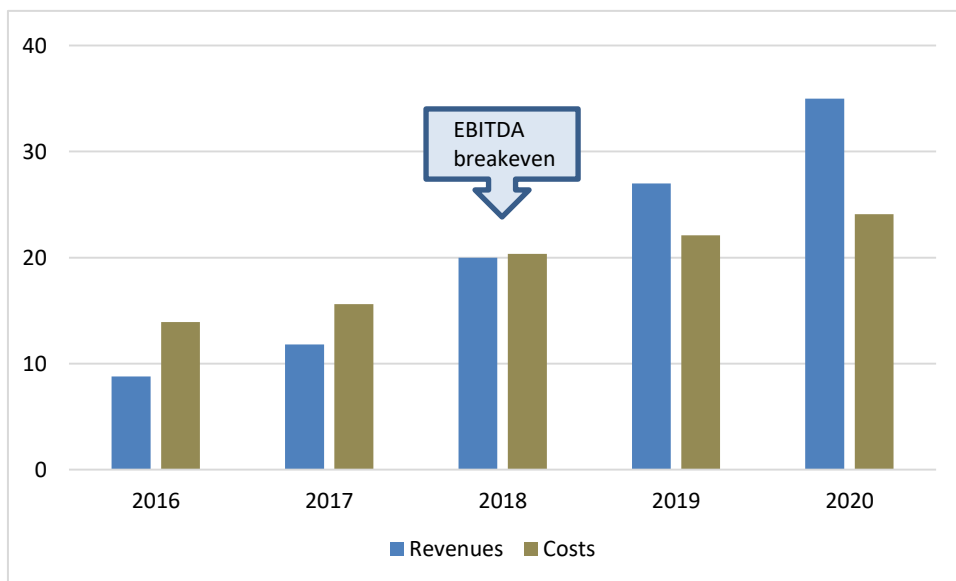
Revenue forecast



Source: Capital Network

As the SmartWall growth continues, we also believe that a fairly rapid turnaround in profitability is achievable, as costs grow much more slowly than revenues, and incremental revenues drop-through to EBITDA at 75% (our forecast). The following chart illustrates our view of the path to profitability.

Path to profitability



Source: Capital Network



## OUR FORECASTS

The following tables contain our forecasts for Corero's P&L, balance sheet, and cashflow.

### P&L

y/e Dec 31st, \$,000s	2015	2016H1	2016FY	2017H1	2017E
<b>Revenue</b>	<b>8340</b>	<b>4791</b>	<b>8772</b>	<b>4813</b>	<b>11800</b>
Cost of sales	-2073	-1002	-2071	-1275	-3050
Gross profit	6267	3789	6701	3538	8750
Other operating costs	-12699	-6274	-11847	-6935	-12550
<b>EBITDA</b>	<b>-6432</b>	<b>-2485</b>	<b>-5146</b>	<b>-3397</b>	<b>-3800</b>
Depreciation / amortisation	-5174	-1601	-3128	-1359	-3100
<b>Adj. EBIT</b>	<b>-11606</b>	<b>-4086</b>	<b>-8274</b>	<b>-4756</b>	<b>-6900</b>
Impairment of GW	0	0	-8992	0	0
EBIT	-11606	-4086	-17266	-4756	-6900
Net interest	-9	-2	3	-1	0
PBT	-11615	-4088	-17263	-4757	-6900
Tax credit (charge)	382	68	85	0	85
<b>Net income</b>	<b>-11233</b>	<b>-4020</b>	<b>-17178</b>	<b>-4757</b>	<b>-6815</b>
Ave. shares in issue	132.76	168.28	189.96	243.9	278
<b>Diluted EPS (¢)</b>	<b>-8.5</b>	<b>-2.4</b>	<b>-9.0</b>	<b>-2.0</b>	<b>-2.5</b>

Source: Capital Network

### Cash Flow

y/e Dec 31st, \$,000s	2015	H1 2016	2016FY	H1 2017	2017E
Net income (loss)	-11233	-4020	-17178	-4757	-6815
Adj. for non-cash:					
Depreciation / amortisation / impairment	5174	1601	12120	1377	3100
Finance income	9	2	-3	1	0
Tax	-382	-68	-85	0	-85
Other	-3	0	28	0	0
<b>Cashflow before WC</b>	<b>-6435</b>	<b>-2485</b>	<b>-5118</b>	<b>-3379</b>	<b>-3800</b>
WC:					
Inventories	88	20	596	-47	-135
Receivables	-1167	1585	1605	242	-623
Payables	-168	-1160	-2623	-481	-585
<b>Net operating cashflow</b>	<b>-7682</b>	<b>-2040</b>	<b>-5540</b>	<b>-3665</b>	<b>-5143</b>
Finance income (expense)	-9	-2	3	-1	0
Development capex	-2285	-1510	-2533	-1258	-2500
PPE capex	-392	-392	-644	-353	-720
Purchase of intangibles	-37	-3	-32	0	-40
<b>FCF to equity</b>	<b>-10405</b>	<b>-3947</b>	<b>-8746</b>	<b>-5277</b>	<b>-8403</b>
Equity issuance	7604	11391	11392	6995	6995
<b>Net cashflow</b>	<b>-2801</b>	<b>7444</b>	<b>2646</b>	<b>1718</b>	<b>-1408</b>

Source: Capital Network

**Balance Sheet**

y/e Dec 31st, \$,000s	2015	H1 2016	2016FY	H1 2017	2017E
Non-current assets					
GW	17983	17983	8991	8991	8991
Acq'd intangibles	375	139	82	50	50
Capitalised development	7620	8056	7901	8074	7921
PPE	893	882	970	1070	1070
Receivables	228	80	80	0	80
	<b>27099</b>	<b>27140</b>	<b>18024</b>	<b>18185</b>	<b>18112</b>
Current assets					
Inventories	661	641	65	112	200
Receivables	3738	2270	2227	2081	2850
Cash and equivalents	2706	8693	2940	5118	1532
	<b>7105</b>	<b>11604</b>	<b>5232</b>	<b>7311</b>	<b>4582</b>
Current liabilities					
Payables	2551	2346	1728	1611	800
Deferred income	3791	3043	2457	2581	2800
	6342	5389	4185	4192	3600
Noncurrent liabilities					
Deferred income	1439	1162	855	398	398
Deferred tax	85	17	0	0	0
Borrowings	0	0	0	0	0
	<b>1524</b>	<b>1179</b>	<b>855</b>	<b>398</b>	<b>398</b>
<b>NAV</b>	<b>26338</b>	<b>32176</b>	<b>18216</b>	<b>20906</b>	<b>18696</b>
Equity:					
Ordinary share capital	2573	3119	3119	4556	4556
Reserves etc	64400	73712	72910	78920	78768
Retained earnings	-40635	-44655	-57813	-62570	-64628
<b>Total equity</b>	<b>26338</b>	<b>32176</b>	<b>18216</b>	<b>20906</b>	<b>18696</b>
<b>Net cash (debt)</b>	<b>2706</b>	<b>8693</b>	<b>2940</b>	<b>5118</b>	<b>1532</b>

Source: Capital Network

**Important – Please read this information:** This report has been commissioned by Corero Network Security PLC and prepared and issued by Capital Network for publication globally. All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however, we do not guarantee the accuracy or completeness of this report. Opinions contained in this report represent those of the research department of Capital Network at the time of publication. The securities described in the Investment Research may not be eligible for sale in all jurisdictions or to certain categories of investors. Capital Network does not offer or provide personalised advice. We publish information about companies in which we believe our readers may be interested and this information reflects our sincere opinions. The information that we provide or that is derived from our website is not intended to be, and should not be construed in any manner whatsoever as, personalised advice. Also, our website and the information provided by us should not be construed by any subscriber or prospective subscriber as Capital Network's solicitation to effect, or attempt to effect, any transaction in a security. This document is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. This document is provided for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research. Capital Network has a restrictive policy relating to personal dealing. Capital Network does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Capital Network may have a position in any or related securities mentioned in this report. Capital Network or its affiliates may perform services or solicit business from any of the companies mentioned in this report. The value of securities mentioned in this report can fall as well as rise and are subject to large and sudden swings. In addition it may be difficult or not possible to buy, sell or obtain accurate information about the value of securities mentioned in this report. Past performance is not necessarily a guide to future performance. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Capital Network within the meaning of the FAA (ie without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision. To the maximum extent permitted by law, Capital Network, its affiliates and contractors, and their respective directors, officers and employees will not be liable for any loss or damage arising as a result of reliance being placed on any of the information contained in this report and do not guarantee the returns on investments in the products discussed in this publication.