

Longer Term Investments

Security and safety

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- Security and safety touch lives everywhere. Governments need to keep infrastructure safe and functioning, enterprises must protect data, and consumers have to trust products like baby food. Growing trends toward urbanization, stricter regulation, and greater consumer awareness about product quality, data security, environmental protection, and social responsibility are just a few factors that support the theme.
- The theme is based on four pillars: 1) cyber-security; 2) testing, inspection, and certification; 3) life science tools; and 4) commercial and residential construction security. Numerous companies with exposure to these categories should benefit from this megatrend over the long term.
- We think the addressable market is a defensive one that offers attractive growth rates in the mid- to high-single-digits over the next 5–10 years. We estimate the industry's overall size at around USD 560bn in 2016, and think it will exceed USD 700bn by 2020. We recommend investing in a well-diversified manner to gain exposure to the entire security and safety value chain worldwide.

Our view

There is a high likelihood that malware, a software program intended to damage or disable computer or mobile phone operations, is sitting on your PC or smartphone. Globally, the total number of malwares has crossed 600 million, and is growing by 32% y/y (as of September 2016), according to McAfee Labs and Bloomberg Intelligence data. Cyber security, along with other security and safety risks, remains a major challenge as the world becomes more and more connected and, hence, vulnerable.

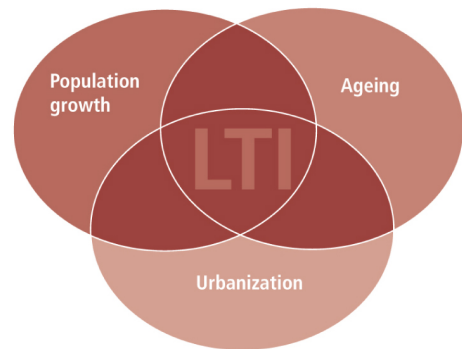
The global security and safety market is a thematic investment idea that benefits not only from structural trends such as rising cyber-attacks but also from threats to the global food chain and to air, water, and soil quality. Our investment theme also covers security solutions for such traditional end-users as airports (via biometric identification, screening technologies, and luggage checks), mass transit systems, ports, power plants (and other energy providers), and homeowners (e.g., for fire protection). We discovered that making the world a safer place offers interesting business opportunities.

The good news in a rising risk environment is that the security and safety industry is succeeding in helping us avoid danger. With greater innovation and investment, the addressable market should continue

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Introduction to the Longer Term Investments (LTI) series

- › **The Longer Term Investments (LTI)** series contains thematic investment ideas based on long term structural developments.
- › Secular trends such as population growth, ageing, and increased urbanization create a variety of longer term investment opportunities.
- › Investors willing to invest over multiple business cycles can benefit from potential mispricings created by the typically shorter term focus of stock markets.



to grow at rates in the mid-to-high single digits, depending on the sub-sector. Also, the industry is not especially cyclical and appeals to growth- and quality-focused investors alike. While we expect revenue in the market to rise 6% annually during 2014–2020, we expect profits to increase more rapidly due to margin expansion arising from an improving product mix (more software sales) in the cyber-security sub-sector.

Introduction

Long-term trends such as urbanization, stricter regulation, and growing consumer awareness about product quality, data security, environmental protection, and social responsibility support our security and safety theme. We examine the most important and, in our view, most promising parts of its value chain: 1) cyber-security; 2) testing, inspection, and certification companies; 3) life science tools; and 4) the commercial and residential construction security sector. We excluded the basic guarding segment of the market as we think it will experience long-term structural pressure from technological solutions. A short concluding section touches on where this theme overlaps with the topic of sustainable investing.

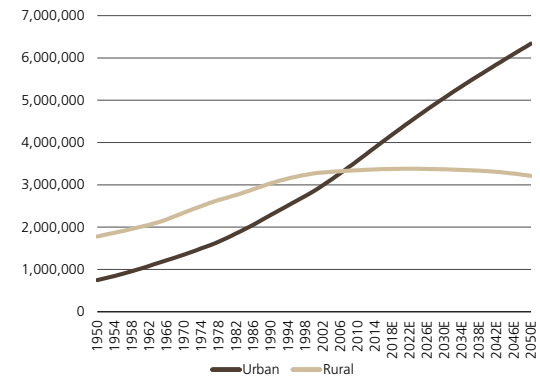
Aside from the individual drivers of each sub-sector, we have identified one long-term trend that links them all: **urbanization**, which leads to higher population density and more social differences. Both imply greater tensions and insecurity. For example, the rate of property crime in the US is much higher in urban than in rural areas (based on 2011 numbers), according to the US National Crime Victimization Survey. In emerging markets (EMs), an expanding urban middle class can afford more security products and services, which should lead to higher growth for the sector. In 1950, only 29% of the world's population lived in cities. By 2008, urban dwellers had exceeded rural ones. The UN expects this trend to continue, with 70% of the global population residing in cities by 2050 (see Fig. 1).

While most developed-country inhabitants were already concentrated in urban areas by the mid-20th century, EM residents are still catching up. The urbanization trend will create major challenges and compelling investment opportunities, in our view. A case in point is the rising number of connected devices – PCs, smartphones, and wearable devices – worldwide (see Fig. 2), which is leading to increased complexity and exposing users to security risks.

Cyber-security

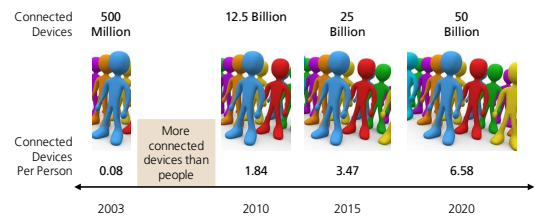
Cyber-security poses a serious threat to individuals, corporations, and governments alike. While the 2013 leak of classified information to a newspaper by Edward Snowden, a former US government contractor, is an inflection point for the cyber-security debate, the ongoing security attacks on major companies highlight that nothing is fully secure. Global cyber-security incidents continue to rise 20–30% every year.

Fig. 1: Urban and rural populations 1950-2050E



Source: United Nations, Population Division – World Urbanization Prospects: The 2014 Revision

Fig. 2: More connected devices mean more security risks



Source: Cisco, UBS, as of April 2015

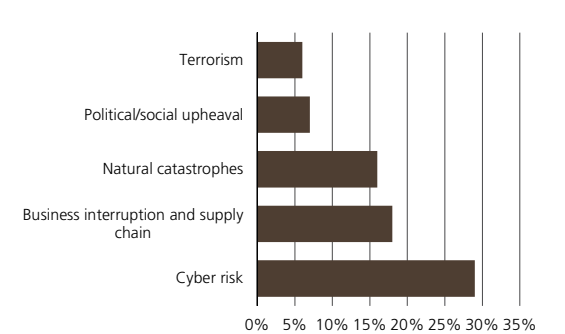
While cyber-security has been largely associated with computers and IT infrastructure, greater consumer use of smart devices like smartphones and tablet PCs has raised overall vulnerability to cyber-threats. At the enterprise level, shifting to cloud computing has cut company costs significantly while raising the risk of an online attack. Perpetrators have become more sophisticated. Early aggressors mainly targeted personal information, but the latest malicious attacks, such as the recent incidents at Yahoo!, Target, and eBay, have brought entire corporate IT infrastructures to a standstill. Cyber-attackers' intentions have also shifted from gaining notoriety to benefiting financially or politically.

Cyber-crime has broader consequences than merely exposing the vulnerabilities of the affected party. It also damages trade, competitiveness, and innovation at the macro level. A study done by Lloyd's and the University of Cambridge highlights that a cyber-attack on the US power grid alone would cost USD 243bn, rising to more than USD 1tr in the most extreme scenarios, according to Bloomberg Intelligence. Furthermore, we believe cyber-crime has serious implications for employment as repeated cyber-threats can jeopardize new investment, and, in turn, job creation.

Despite the broad-based implications of cyber-security risks, we believe businesses are ill-prepared. Based on Allianz's 2015 study, cyber risk is one of the top risks businesses are least prepared for (see Fig. 3), according to Bloomberg Intelligence. What do these developments mean for the cyber-security industry? For one, security is no longer merely a concern of IT managers, but a key boardroom topic as enterprises have to recognize its strategic importance. Companies need to beef up their security infrastructure to prevent breaches. Various regulations like the NIST framework in the US and the EU Cyber Security framework mandate minimum cyber-security standards. Financial institutions, for instance, face hefty fines if they do not comply with them. Interestingly, regulators are not isolated from the wave of cyber-security spending as the US government's budget proposal for 2017 makes clear. The US federal government seeks a USD 19bn outlay for cyber-security, compared to the USD 14bn budgeted for the last fiscal year and the USD 12.6bn in fiscal 2015 (see Fig. 4). With President-elect Donald Trump identifying cyber-security as a key priority, we will continue to see strong momentum for the cyber-security industry.

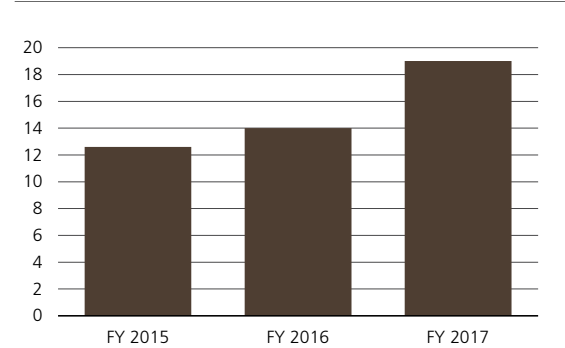
The size of the global market stood around USD 100bn in 2015, and has grown by 6–8% annually for the past three years. Various industry estimates see the end-market expanding by 8–10% annually on average over the next six years, with the addressable market reaching USD 160bn by the end of 2020. These estimates look reasonable to us. Cyber-security is also one of the most defensive segments within IT; spending on it has limited downside in our view due to its importance, and has increased at a high-single-digit rate in recent years at a time when broader enterprise IT spending limped along at low-single-digit rates. Additionally, despite the overall muted

Fig. 3: Risks for which businesses are least prepared



Source: Allianz, A Guide to Cyber Risk, Sep 2015, bloomberg Intelligence, UBS, as of 2015

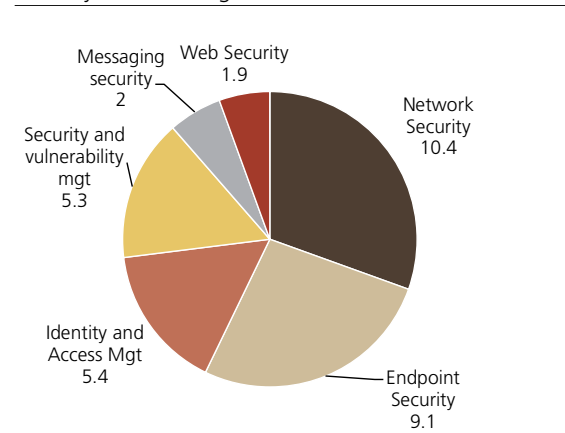
Fig. 4: Federal cyber security spending targets in USD bn



Source: US government, UBS, as of 30 December 2016

Fig. 5: Global security software spending is highly recurring and on the rise

Security software segment revenues in USD billion



Source: IDC, Bloomberg Intelligence, UBS, as of 2015

enterprise IT spending outlook, plans for security spending remain largely unchanged, when they have not in fact increased.

As is the case with any IT industry, cyber-security is broadly divided into three major components: security hardware, software, and services. We see security software as a clear stand-out segment within the cyber-security market given its above-average growth prospects, solid margins, and high recurring revenue base. The size of the industry stood around USD 34bn in 2015 (see Fig. 5), according to IDC and Bloomberg Intelligence data, and we expect the market size to reach around USD 50bn by 2020.

Testing, inspection, and certification (TIC)

Companies in the TIC sector ensure that products and processes meet standards and regulatory requirements in terms of safety and performance. They serve different end-markets, including the automotive, consumer, environmental, food, medical, life sciences, and oil and gas sectors, and inspect, verify, test, and certify services against pre-specified standards.

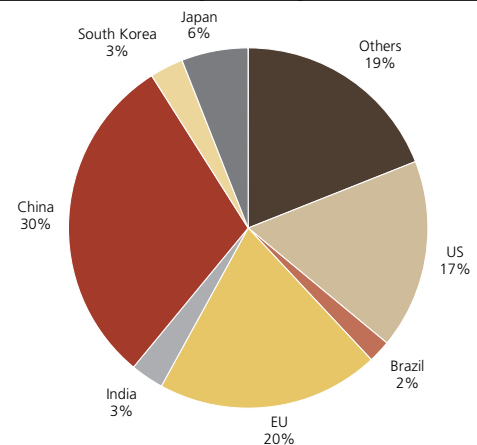
We estimate the addressable TIC market to be worth more than EUR 200bn. This figure is based on an analysis done by Bureau Veritas, a global market leader, in October 2015, and includes in-house and outsourced services. The market opportunity for public and private companies is more than EUR 80bn; the rest is for government and in-sourced services. The regional and end-market split shows a lack of concentration (see Figs. 6 and 7), which makes it an attractive business model as there is no dependence on a single region or market.

Until 2014, the average annual market growth rate was almost 9% over the previous two decades, beating nominal GDP growth by 2 percentage points per annum. We think that TIC growth will continue to outpace GDP growth thanks to attractive end-markets and further market consolidation. While the rate this year is unlikely to exceed 5% annually due to weaker demand from oil and gas customers, we expect a re-acceleration to a reasonable long-term rate thereafter.

The growing emerging market middle class wants more consumer goods (e.g., appliances, clothes) that will require more TIC services. Asia-Pacific's robust demand for cars and the growing construction market in important developed markets should boost growth as both the automotive and construction sectors are heavy users of TIC company products and services. One of the best end-markets is the environmental sector, which benefits from trends such as water scarcity, clean air, and waste management and recycling in EMs, as discussed in three of our previous Longer Term Investment themes.

The individual market drivers include increasing consumer awareness about the quality and safety of products (as evidenced by the baby-food scandal in China) and tighter regulations and standards in the environmental, food, and healthcare sectors. Many companies use supplier and client certifications to maintain or improve their reputation. In EMs in particular, companies often still lack global certifi-

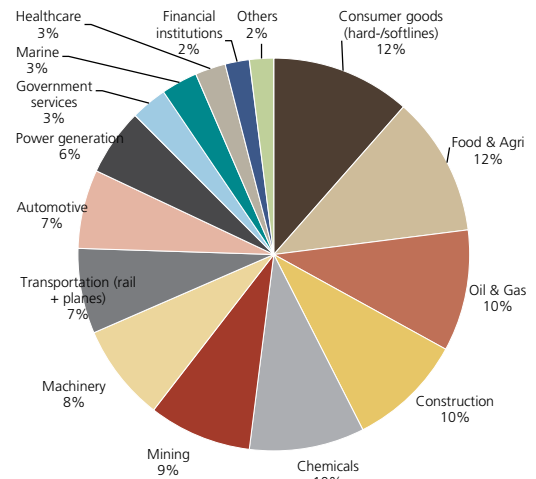
Fig. 6: TIC market by country



Source: Bureau Veritas as of 6 October 2015

Fig. 7: TIC market by industry

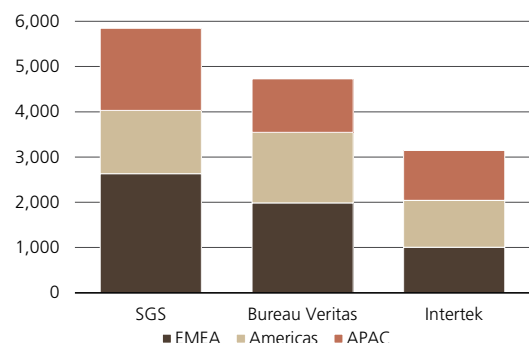
Based on EUR 200 billion market size



Source: Bureau Veritas as of 6 October 2015

Fig. 8: 2016 revenue breakdown by region

In USD million (estimates)



Source: FactSet as of 21 December 2016, UBS

Note: EMEA = Europe, Middle East, Africa

cation, a situation we expect to change (we anticipate them to seek more ISO certificates). Companies aren't the only entities that want to adapt to these standards; government regulation often requires products to be certified by independent third parties (toy testing, for instance, has been compulsory in the US since 2008).

Another trend is to reduce costs by outsourcing testing services in favor of external expertise that uses state-of-the-art equipment. This trend has manifested itself in the mining sector in recent years in Australia and Canada. A growing industrial base in China and India should also spur demand for TIC services. Energy-efficiency and other requirements are getting tougher and require certifications.

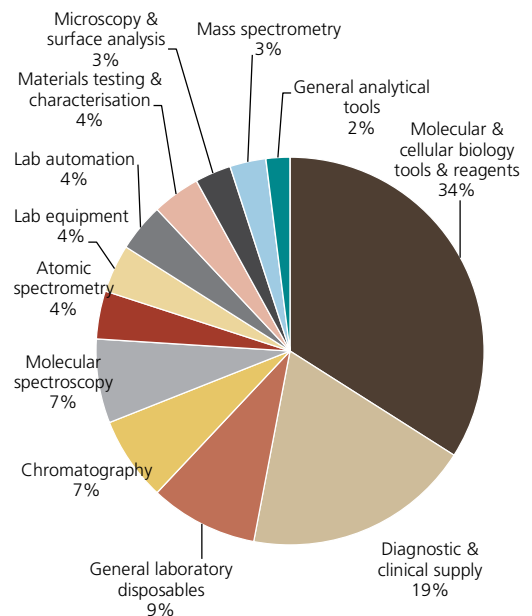
The TIC industry is fragmented. The market share of the top 15 companies is only 40%, with the rest of it split among niche players with revenues of less than USD 10mn annually. The top three players are SGS, Bureau Veritas, and Intertek, whose sales are between USD 3bn and USD 6bn (see Fig. 8). SGS operates more than 1,650 offices and laboratories globally. The top 10 companies are all European, among them five non-listed companies (Dekra, TUV Süd, TUV Rheinland, DNV, and TUV Nord). The sector has been one of the most active in M&A. And just to mention one example where we have the data, the five industry leaders accounted for some 200 acquisitions between 2006 and 2010 (Bureau Veritas, Dekra, Eurofins, Intertek, and SGS); this trend hasn't changed since then and we expect consolidation to continue.

Life science tools

Security and safety also encompasses the safe development of new drugs and the testing of water, soil, and air quality. Life science tools (LST) companies that offer products that satisfy these challenges can benefit from greater safety requirements. LST companies sell equipment used in laboratories and research centers to test and monitor products prior to their sale, and provide information about things like water quality. This equipment includes incubators and freezers; consumables like glassware, microscopes, and pipettes; and laboratory reagents and software. UBS estimates the LST market size at more than USD 100bn annually (see Fig. 9). Historically, LST firms have organically increased their revenues at a rate slightly higher than global GDP growth, and their margins have grown at a faster clip than the average S&P 500 company. UBS expects the sub-sector to grow in line with global GDP growth now that it is at a more mature stage.

Though LST companies are growing more slowly than other security firms, we believe their shares belong in a well-diversified security portfolio as the breadth of the sector's customers (200,000 laboratories and 100,000 customers) lends the stocks defensive qualities. LST companies commonly supply the biopharma and the food and pharma-testing markets (testing, inspection, and certification companies are typical customers). The sector is characterized by high barriers to entry and a stable business model; since customers don't typically buy products from unproven vendors, it offers earnings stability

Fig. 9: The life science tools market by product segment



Source: Merrill Lynch as of 3Q16

and visibility. The long-term growth drivers are similar to those in the TIC sector, such as protection of the global food chain and the environment (e.g., water control), protection against hospital infections, forensic labs involved with criminal cases, and the testing of children's toys, among others.

Our theme includes two groups within this sub-sector: a) companies active in equipment sales; and b) companies that sell consumables and services.

Commercial and residential construction

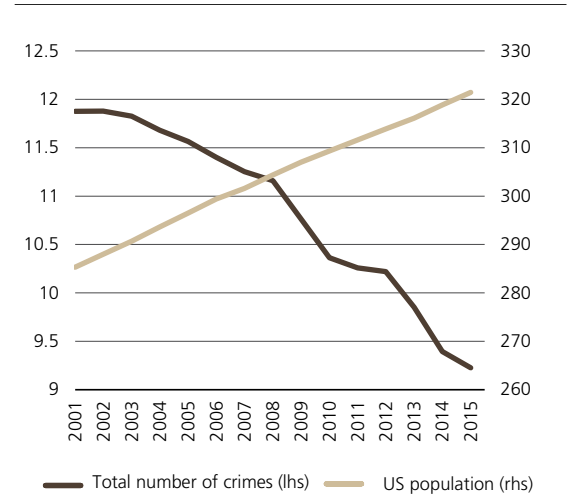
Alongside cyber-security, commercial and residential construction security is one of the largest sub-sectors of the theme and has an array of products and services on offer. Lock and security-system company Assa Abloy estimates the total security market to be worth over EUR 250bn. We exclude some services (guards) in our definition of the sector and so assign it a smaller overall market size (EUR 185bn or USD 200bn, see Fig. 15). From a regional perspective, the highest growth rates, at around 10% annually until 2020, are in EMs. Africa and the Middle East remain particularly underdeveloped, though big markets like China and India should also grow at brisk rates. The build-out of new infrastructure and buildings in big cities – urbanization – fuels demand.

In addition to this underlying demand growth, consolidation will increase revenue growth and earnings, in our view. (Assa Abloy, for example, has acquired an average of 5–10 companies annually.) The desire for greater residential security has historically sold security products. Data from 2010 shows that an American household was burglarized every 13 seconds (based on crime statistics). One in three houses without an alarm system suffered a break-in or a break-in attempt, while only one in 250 houses with an alarm system did. Another study analyzed the average loss from burglary, finding that in homes with an alarm system it is only USD 3,266 versus USD 5,343 in homes without one (based on data gathered from Greenwich, CT), because an alarm system gives burglars less time to spend in each house.

Better protection is also reflected in lower crime rates, which have sunk over the last decade (see Fig. 10). This is even more impressive given the growing population. These dynamics are expressed in the fact that the market for electromechanical security products grew 3–4x faster than the traditional mechanical lock market in the last 10 years. A nice side effect of better home security is a lower insurance premium, which creates additional incentives for investment. We expect major business opportunities in EMs as their middle class continues to grow. Typical home-security products are electric locks, sensors, and cameras. The rising awareness of the need for energy-efficient applications (smart homes) enhances growth potential as well.

Ongoing urbanization and a larger EM middle class also support the commercial and residential construction safety market. As more

Fig. 10: Strongly falling total crime rates in the US
Both in USD millions



Source: US Disaster Center, as of December 2016
Note: rhs = right hand side; lhs = left hand side

people who can afford more security services live in higher-density neighborhoods, demand for them should rise. Also, emerging and developed markets alike exhibit a growing need for security investment in infrastructure like airports (e.g., for biometrics). Another trend prevalent in developed countries stems from renovation: many older houses have no fire safety equipment. Last but not least, better technology and, with it, more outsourcing (e.g., remote monitoring, video surveillance) benefit companies active in this market.

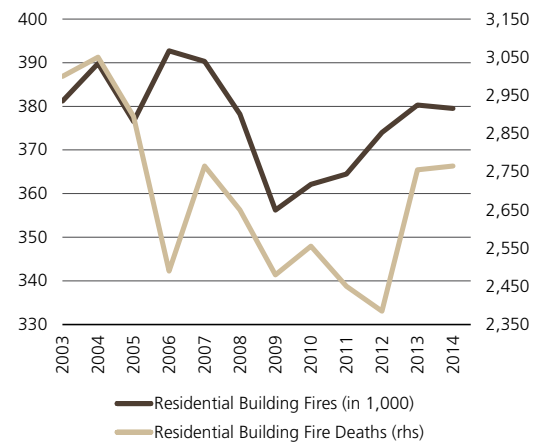
Other promising trends in the commercial and residential construction area include access control, home security solutions, video surveillance, and fire protection. With regard to access control, biometrics represents one of the highest growth segments, given the increasing importance of identity security (for travel documents, identification cards, healthcare cards, or drivers licenses). Similar strong demand is expected in the video surveillance market, which is fueled by the need to support public safety in light of terrorist threats and everyday crime; this is translating into higher spending by governments and the private sector alike. Finally, the fire security market is worthy of mention. At present, North America and Europe are still its largest markets, but Asia is catching up quickly.

Tighter regulation, construction activity, and asset protection are the most important factors with regard to fire security. Many countries have laws in place that ensure the use of alert systems in old and new buildings (e.g. US National Fire Protection Act or the European Norm). According to the National Fire Protection Association, reported home fires were 50% lower in 2014 than in 1980, and fire deaths were down 47% (see also Fig. 11). US fire deaths have been relatively stable despite a growing population because of, among other factors, more fire alarms. But almost two-thirds of fire deaths still occur in buildings without fire alarms or with non-functioning alarms – sad statistics that clearly support our investment theme.

Risks

Risks in the cyber-security area include the inability of security vendors to prepare for a major threat or to adjust to a major technological change, which would result in lower spending. A weaker macro outlook could also weigh on enterprise and government IT outlays, though we believe cyber-security should be relatively less affected, as evidenced by the US budget for fiscal year 2017. In the other sub-sectors, one of the main risks comes from the regulatory side. Less strict regulation might lessen demand for TICs and construction-exposed names, reducing expected sales and earnings growth. Decreased government spending on critical infrastructure (airports, public places, etc.) would also reduce investment in security products. TIC companies have a broad range of end-markets, and weak demand in areas not discussed in this report (e.g., the oil and gas end-market) also jeopardizes sales and earnings. In the life science tools sub-sector, the biggest risk is again regulatory changes, and reimbursement uncertainties.

Fig. 11: US residential building fires and deaths



Source: U.S. Fire Administration, National Fire Protection Association, as of December 2016.

Note: rhs = right hand side

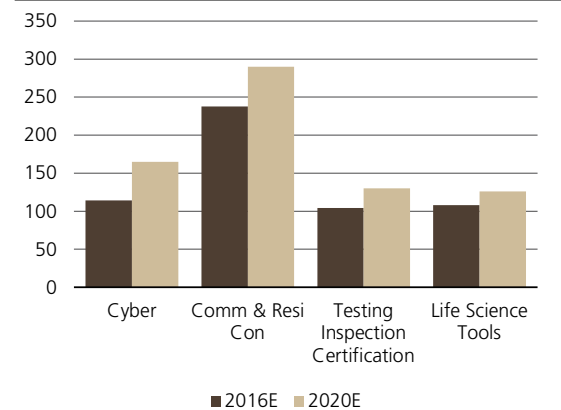
Link to Sustainable Investing

We view "Security and safety" as a sustainability-themed investment that fits in our sustainable investing (SI) framework. The products and services offered by security and safety companies apply primarily to the social aspects of environmental, social, and governance (ESG) issues. In particular, cyber-security issues have gained importance over recent years as these products address the need to prevent the risk of data loss. Breaches of cyber-security may cause social damage because they can disrupt key systems such as the financial system, food and water provisioning, and communications. Traditional risks that security and safety companies address can be found in the area of testing. Typical examples include the security of the global food supply chain; monitoring of water, soil, and air quality; and the testing of children's toys for toxic heavy metals. For these kinds of tests, laboratories across the world are needed that security and safety companies either operate or provide equipment. Other examples include building security such as fire detection.

Conclusion

The importance of the security and safety industry should keep its products and services in high demand. While it should generally benefit from a pick-up in the global economy, spending on it tends to exhibit less cyclical, which makes the theme more defensive. As seen in Fig. 12, our bottom-up estimates project that the addressable market should increase by an average of 6% over the next five years. Though it is already a large industry (estimated size around USD 560bn in 2016), we believe its growth rates will remain impressive. More importantly, its earnings growth should reach 8-10% long term, given the margin expansion resulting from an improving mix as the share of higher-margin increases. To fully benefit from this theme, investors need to take a long-term view. The theme, particularly the cyber-security sub-sector, features solid balance sheets and strong cash flow generation, which result in better quality. The other sub-sectors are also characterized by strong structural growth trends, such as the rising demand for testing in EMs and the greater need for commercial and residential construction security applications.

Fig. 12: Security and safety addressable market
In USD billions



Source: Industry and company reports, UBS estimates (based on EUR/USD exchange rate of 1.1)

Note: Cyber = Cyber-security; Comm & Resi Con = Commercial & Residential Construction

Appendix

Terms and Abbreviations

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
1Q, 2Q, etc. or 1Q11, 2Q11, etc.	First quarter, second quarter, etc. or first quarter 2011, second quarter 2011, etc.	2011E, 2012E, etc.	2011 estimate, 2012 estimate, etc.
A	actual i.e. 2010A	bn	Billion
COM	Common shares	E	expected i.e. 2011E
GDP	Gross domestic product	Shares o/s	Shares outstanding
UP	Underperform: The stock is expected to underperform the sector benchmark	CIO	UBS WM Chief Investment Office
y/y or YOY	Year-over-year; year on year		

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