Investment Recipes

by AtonRā Partners

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AtonRâ Partners

AtonRâ Partners SA
www.atonra.ch

research@atonra.ch
+41 22 906 16 16

7, rue de la Croix d'Or
1204 Geneva | Switzerland

On the Menu

NEW OPPORTUNITIES IN TELEMEDICINE

Telemedicine To The Forefront

Telemedicine technology ripe for broader adoption

Telemedicine requires basic technology that is now easily available for both patients and physicians, allowing for more convenient consultation services with shorter waiting times and easier access to specialist doctors.

- Technical requirements include a secure access, sufficient broadband internet to transmit audio and video data, a video platform, the interface between the healthcare providers and patients, and a software installed on the video platform.

Covid-19 pandemic a blessing in disguise

Lockdown enforcement resulted in a surge of remote medical visits. As patients were forced to adopt telemedicine solutions, they also experienced firsthand the benefits and advantages.

- In-person visits imploded by almost 60% at the end of Q1.
- Telemedicine providers have all seen significant spikes in both subscriptions and visit-fee-only volumes.

Regulators giving in to better reimbursements

Reimbursement measures extended to telemedicine during the emergency situation are likely to remain for longer and appear as the first cracks in the dam.

- Better reimbursement rates are key to drive adoption.
- Regulators are already issuing guidelines that look to extend better reimbursement conditions for telemedicine.

Telemedicine Technology Unwrapped

Broadly available technology

Telemedicine's basic requirements include secure access to broadband internet, a video platform acting as the interface between the healthcare providers and the patients, and a dedicated software.

- Video platforms are usually home computers or app-enabled smartphones.
- Telemedicine software may allow providers to import new patient's data into Electronic Health Records (EHR).

Peripherals

Today's technology incorporates data from peripheral devices, such as remote patient monitoring (RPM) devices, to collect and transmit health information to the physician.

- Digital stethoscopes transmit heart and lung sounds to remote providers.
- High definition videocameras, called dermascopes, allow for detailed visualization of skin problems, while otoscope cameras send clear pictures of the nose, throat and ear.

Patient privacy

Telemedicine services must guarantee privacy for patients' personal health data. Today, housing digital data on third-party remote servers may be more secure than locale servers.

- In the U.S. patient data protection requires telemedicine providers to be compliant with Health Insurance Portability and Accountability Act (HIPAA).
- Applications such as Skype or WhatsApp are not HIPAA-compliant.

SOURCE:
What are the technical infrastructure requirements of telehealth?
Telemedicine Technology
Technology Requirements in Telemedicine

The Pandemic Has Pushed Telemedicine Into The Future

COVID-19: the unexpected catalyst

COVID pandemic forced healthcare institutions and regulatory bodies to adopt telemedicine as an effective way to limit the viral spread.

- The American Medical Association (AMA) released telemedicine specific guidelines.
- The U.S. government expanded reimbursement coverage and lifted regulatory restrictions.

Unprecedented adoption in the wake of coronavirus

As the COVID-19 spread around the world, The Centers for Medicare & Medicaid Services (CMS) temporarily expanded its reimbursement coverage for telemedicine.

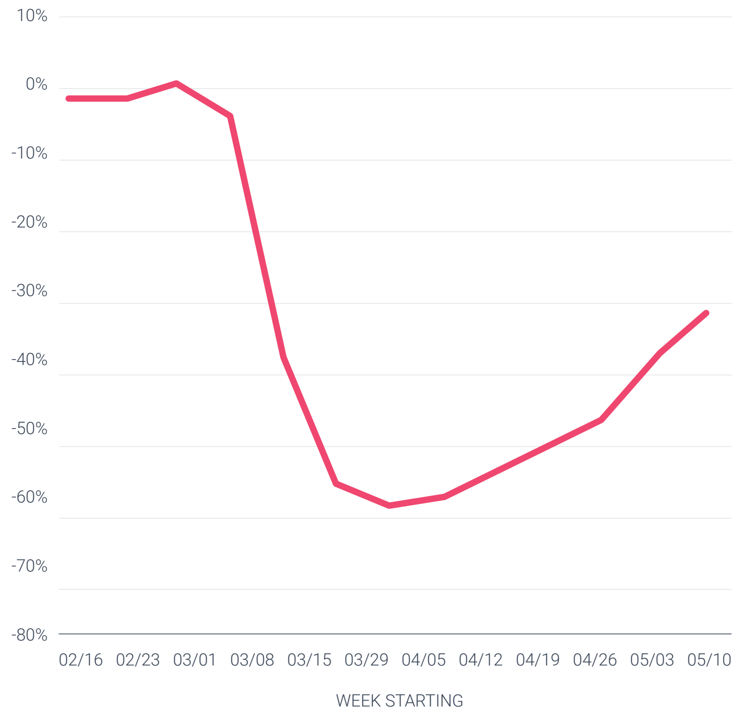
- CMS approved more than 80 new telemedicine services, waived geographic restrictions and included telephone consultations.
- CMS is paying telemedicine services at the same rate of in-person visits.

Is the use of telemedicine already fading?

During the COVID, the number of in-person visits dropped dramatically, mirroring a spike in virtual visits. As lockdown is being lifted, in-person visits are seeing a gradual recovery, but still represent a fraction compared to pre-COVID levels.

- In-person visits have seen a rebound in mid-June, after a decrease of nearly 60% from February to mid-March but are still one-third lower than what they were before the pandemic.
- U.S. consumers using telemedicine passed from 11% in 2019 to 46% in May 2020.

PERCENT CHANGE OF IN-PERSON VISITS FROM BASELINE



NOTE: Data are presented as percentage change in number of visits in a given week from the baseline week (March 1-7)
SOURCE: Ateen Mehrotra et al., "The Impact of the COVID-19 Pandemic on Outpatient Visits: A Rebound Emerges", To the Point (blog), Commonwealth Fund, May 29, 2020. https://doi.org/10.26099/ds9e-jm36

SOURCE:
Using Telehealth to Care for Patients During the COVID-19 Pandemic
Key changes made to telehealth guidelines to boost COVID-19 care
Secretary Azar Announces Historic Expansion of Telehealth Access to Combat COVID-19
Telehealth: A quarter-trillion-dollar post-COVID-19 reality?

Building Foundations For Long-term Growth

In the midst of a major change

The main barriers to telemedicine adoption include the regulatory & reimbursement hurdles, the lack of proper IT infrastructure, lack of awareness and concerns about reliability and effectiveness.

- Only 18% of physicians used telemedicine in 2018.
- Insurers paid roughly 20% to 50% less for virtual visits than in-patient visits.

New membership subscriptions are spiking

Telemedicine companies have seen a surge in both members and visits, particularly through March and April. The huge uptick in virtual visits could be extraordinary and tied to the emergency created by the virus. However, membership subscriptions usually are long-term contracts.

- During Q1, Teladoc, leading provider of telemedicine services, reported U.S. membership subscriptions up 61% YoY, while U.S. members with visit-fee-only access rose 89% YoY.

Permanent reimbursement expansion: the next catalyst

The healthcare industry has called on health officials to make permanent the favorable payment conditions set during the COVID-19 outbreak. Reimbursement expansion is necessary to incentivize providers to invest in telemedicine infrastructure and keep patients using it for low-acuity and emergency visits.

- CMS has already issued a proposed rule to make permanent some of the temporary provisions, starting January 1, 2021.

SOURCE:
CMS Proposes Calendar Year 2021 Payment and Policy Changes for Home Health Agencies and Calendar Year 2021 Home Infusion Therapy Benefit

New Investment Opportunities On The Horizon

New companies are filing for an IPO

Telemedicine companies are seeing increased investors' interest. Teladoc has been so far the main listed pure player in the U.S. but more companies are going public.

- One Medical went public on January 31.
- Ping An Good Doctor was one of the biggest Hong Kong IPOs of 2018.
- Amwell is exploring an IPO, currently scheduled for September.
- Oak Street Health has just filed for a $100mn IPO.

Telemedicine was originally designed for emergency care

Most telemedicine players are not intended to replace the primary care physician. They are mainly focused on behavioral and emergency care, cannot order laboratory tests or dispense prescription drugs. Patients don't receive ongoing care with the same person through the illness as a random doctor is assigned every time.

- Teladoc and Amwell offer a 10 minutes remote conversation with a random doctor, who cannot dispense prescription drugs or order tests to confirm a diagnosis.

New business models are emerging

Telemedicine has been focused on low-acuity urgent care but has still a lot of opportunities for expansion, such as follow-up for surgery and cancer therapy, although in-person visits will still be needed.

- Teladoc and Amwell provide virtual-first primary care but other companies, such as One Medical, are exploring a hybrid business model, that mixes telemedicine and office visits.

A Hybrid Business Model

Primary care is ripe for disruption

Primary care consumers are dissatisfied with their experience. Long waiting times for appointments, short visits, uninviting offices, as well as limited access to specialists have led to innovative primary care solutions.

- Physicians are paid on a fee-for-service basis, incentivizing them to enroll as many patients as possible to maximize their income.
- In 2019 Mayo Clinic reported that over 50% of primary care physicians showed burnout symptoms.

One Medical changes the way primary care is delivered

One Medical is a membership-based primary care provider. Through an app, members can text their physician, schedule same-day appointments in more than 70 locations around U.S., get video visits 24/7, renew prescriptions, and be treated in comfortable, uncrowded settings.

- The fee structure encourages patients to use their services leading to more preventative care.

A value-added service for both members and physicians

Electronic business model creates value for patients, physicians and employers. The company pays its doctors an annual salary, removing the incentives for clinical volume and improving the quality of care. Technology allows physicians to focus on meaningful work and increase productivity.

- Electronic health record (EHR) facilitates 44% of administrative tasks.
- One Medical has been shown to lower employer medical costs by 8% or more.

Catalysts

- **Permanent reimbursement expansion.** CMS issued a proposed rule to make permanent some of the temporary provisions set during the pandemic, starting January 1, 2021.
- **Increased adoption.** During the pandemic, physicians and patients have experienced firsthand the benefits of telemedicine, forcing them to test the technology and acknowledge its potential.
- **Surge of IPOs.** The increase in public companies will help boost visibility to consumers and partners.

Risks

- **Physicians' capacity.** Telemedicine providers may not have enough clinical staff to offer remote care.
- **Infrastructure, resources and training.** Switching to telemedicine requires both the appropriate IT infrastructure and expertise.
- **2020 elections.** Several presidential candidates are pushing for a public insurance option. If people start to sign up with the government, some companies might stop offering health insurance to their employees.

Bottom Line

- Regulatory and reimbursement changes could pave the way for sustained growth. Telemedicine companies relying on subscription models are better placed to profit from the unexpected acceleration fueled by the pandemic.
- A new wave of investment opportunities is reaching the public market. Innovative business models are leading to the evolution of primary care. We already have exposure to the sector and keep a close eye on possible new opportunities.

Companies mentioned in this article:

Teladoc (TDOC US), Amwell (not listed), 1Life Healthcare (ONEM US), Oak Street Health (not listed), Ping An Good Doctor (1833 HK), Alphabet (GOOG US)

CEM, A NEW ERA FOR RISK MANAGEMENT

The Duty To Keep People And Assets Safe

Critical events are on the rise

Organizations and communities face an increasing number of incidents of various natures. For example global warming increases the number of extreme weather events, loose regulations facilitate access to weapons, and the digitization of the economy is creating new opportunities for hackers.

- In 2019, there were 417 mass shootings in the United States. The 2015-2019 average was at 363 mass shootings – still 1 per day.
- Reported malware cases increased 20x from 50mn in 2010 to 1bn in 2019.

A software to mitigate or eliminate the impact of a threat

Critical Event Management (CEM) software identifies and handles in an automated way threats or incidents within a place or organization. These systems communicate with all stakeholders impacted by the event, reducing the response time to tackle issues and the duration of disruption.

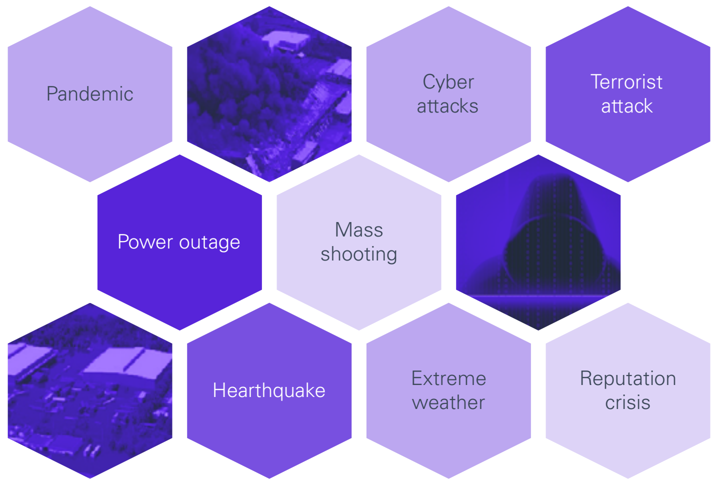
- Everbridge, a market leader in CEM, detected for its clients 3.1mn events in 2019 and generated 3.5bn messages related to these events.

A growing industry full of opportunities

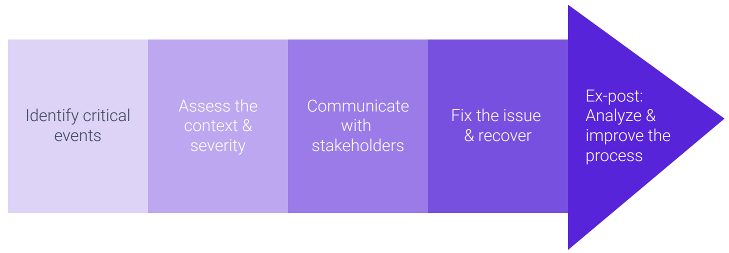
Each crisis represents opportunities for the CEM industry to prove its added value. Decision makers in large enterprises and public collectivities start understanding the interest of protecting their assets and people with CEM software. Regulatory changes amplify the tailwinds.

- As COVID-19 negatively affected over 70% of U.S. SMEs, the importance of business continuity plans emerged.

EXAMPLES OF CRITICAL EVENTS



HOW CEM SYSTEMS HANDLE CRITICAL EVENTS



SOURCE:
Gun Violence Archive, AV Test, Everbridge, US Census Bureau

Critical Events Are Costly And On The Rise

The economic damage of critical events

Critical events cause damages totaling hundreds of billions of dollars globally. Direct costs, e.g. the destruction of assets after a tornado, easily come to mind. But indirect costs, e.g. the loss of employee wages due to suspension of operations and the loss of revenues for the suppliers, are often more significant.

- The higher the direct costs, the higher the indirect costs (ripple effect).
- The economic growth of a US county is reduced by 0.79% if it is struck by at least one hurricane over a year.

CEM systems are necessary to mitigate costs not covered by insurance

Most people and organizations are not insured against critical events. Premiums seem too expensive for risks that appear to be remote or even unlikely to happen. Policies available in the market never cover all incurred costs, even beyond the loss of lives or strategic assets.

- Of $150bn losses from natural disasters in 2019, only about one third were covered by insurances.

A growing market

CEM systems, as per their multi-threat capabilities, are a natural extension of incident management systems used in IT. Market is quickly growing as risk managers and operations executives wish to better protect their organizations.

- The critical event management and mass notifications market is expected to grow at a CAGR of 19% from 2020 to 2025 and reach $29bn.

TYPES OF CRITICAL EVENTS EXPERIENCE BY U.S. COMPANIES IN THE PAST 24 MONTHS

Critical event	Respondent (%)
Natural disaster	33%
Theft of physical or intellectual property	28%
IT failure	25%
Cyberattack	24%
Utility outage	24%
Executive protection threat	23%
Brand or reputational crisis	23%
Supply chain disruption	22%
Terrorism	14%
Active shooters	11%

FORRESTER SURVEY, 09/2018

SOURCE:
Strobl – The Economic Growth Impact of Hurricanes: Evidence from US Coastal Counties, MunichRe, Frost & Sullivan, Grand View Research, Everbridge, Forrester (Survey conducted on 214 US companies with global operations), AtonRâ Partners

CEM Systems Offer A Concentrate Of Technology

Innovate to better identify and communicate threats

The first warning systems relied on SMS but are now outdated due to the poor scalability of the technology. Current platforms are multi-channel and cover different threats. CEM systems are coded to integrate today's means of communication and to adapt to future technology and changes in habits.

- 5G will offer better signal, bandwidth, and location data.
- Machine learning and AI find patterns in data, make predictions, and help people and organizations make the right decision.

Leverage geolocation data

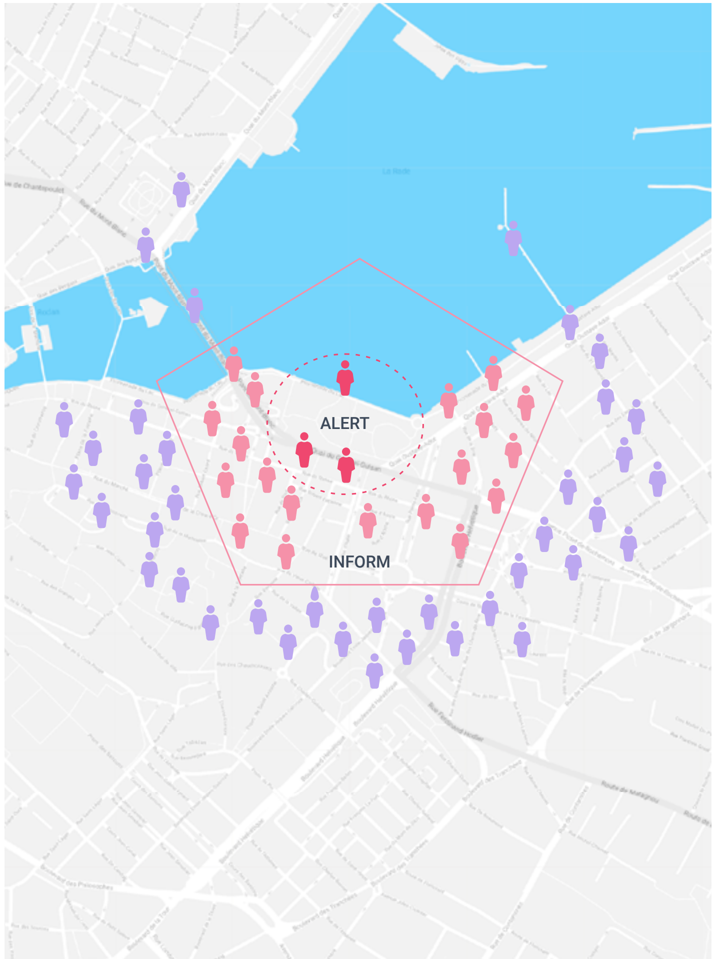
Whether an event impacts a single room or an entire region, the platform should automatically be able to send appropriate messages to different stakeholders: helpers, those directly impacted or at risk, and those who must know about the incident. Geolocation data is key to inform about dangers and give directions.

- Geolocation data can be obtained through different sources: GPS, WiFi, Bluetooth, or cell phone towers from telecom providers.
- CEM systems aim to differentiate static locations (where people live or work), from last known location and expected location leveraging AI algorithms.

IoT is extending the range of possibilities

IoT will have a major impact on mass notification and critical event systems. The next wave of connected devices represents additional means of communications to alert about issues. Moreover, these devices and their sensors will generate new types of data to gather information and help identify potential threats.

- IoT devices will increase from 27bn units in 2017 to well over 100bn in 2030.



SOURCE:
HIS Markit – "The Internet of Things: A movement, not a market", AtonRâ Partners

A Young Industry Full Of Potential

An industry that benefits from more regulations

A global regulatory wave for improved risk management practices is supporting the CEM industry. Real-time monitoring of critical events is becoming an essential element of continuity plans also on the public side. Countries want to be able to communicate important messages to the population using the latest technology.

- All EU member states must adopt a public warning system by June 2022.
- India is working on an alert system to reduce cyclone impact on coastal states.

Managing a population or a workforce during the COVID-19 outbreak

CEM systems help communities and large organizations navigate the COVID-19 pandemic. They provide information about local regulations and restrictions. The software help monitor clusters and cases within supply chains, and check transport availability. Operations can be maintained, and back-to-work plans orchestrated.

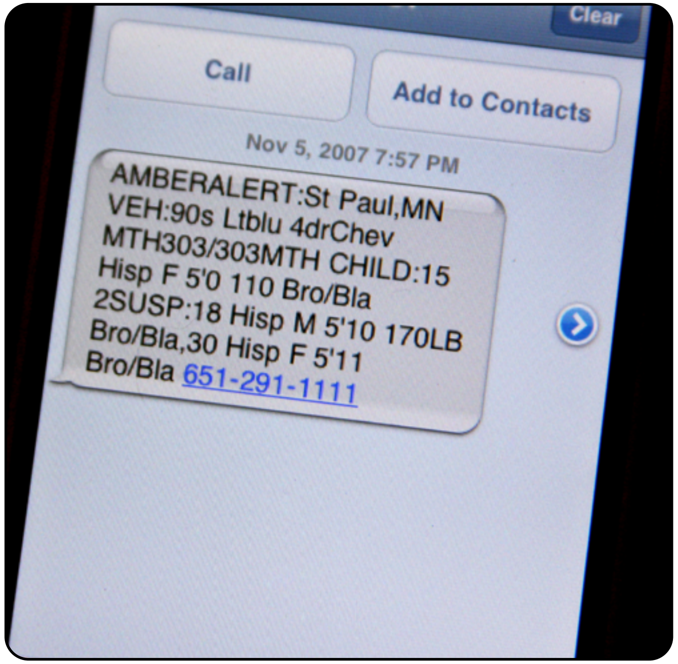
- Norway sent 5.4mn COVID-19 messages in April. For foreigners, the system detected the language without the need to provide any personal information.

Subscription-based revenue model

Although smaller players offer pay-per-use packages, market leaders generate revenues with multi-year contracts billed periodically. The invoice is a function of the number of people in the network and the number of critical events to be identified. Recurring revenues offer better visibility and stability for a firm's financials;, as long as the clients stay on board.

- Markets leaders exhibit high retention rate – e.g. 95% at Everbridge.

EXAMPLE OF ALERT SYSTEM
TO BE IMPLEMENTED IN EUROPE BY 2022



SOURCE:
Norwegian Directorate for Health and Social Affairs, Everbridge, IMAGE: Wikipedia

Catalysts

- **Business continuity plan awareness.** The COVID-19 crisis demonstrated the importance of business continuity plans. As firms around the world are reviewing their response to such event, the CEM industry is likely to attract new clients.
- **Major critical event.** Entities tend to react to problems rather than anticipating them. Each new critical event is an opportunity for the CEM industry to show its added value.
- **5G.** Low-latency, high speed internet will pave the way for the next wave of technology innovation, including new means of communication and data collection – both used in CEM systems.

Risks

- **Data monetization.** Data is the new gold. Some companies may be tempted to use the contact details of the millions of users for other purposes than mass notification, causing reputation risk to the whole industry.
- **Earnings.** Pure players are on the road to profitability. To sustain revenue growth, they invest heavily in their platforms to get a competitive edge vs the behemoth like Cisco, Honeywell, or Siemens.
- **Inefficient platforms.** France launched its first alert system in 2016. It was terminated in May 2018, because it was useless – e.g. alerts delayed or simply skipped. People's trust in such software will only be achieved if the platforms work flawlessly.

Bottom Line

- Companies are more and more impacted by critical events. Relying heavily on the latest technologies such as data analysis or geolocation, critical event management systems help companies identify these events and mitigate their impact.
- The CEM industry is benefitting from a better recognition about its potential from C-level executives. At the public level, new regulations in several jurisdictions force governments to offer public alert systems to protect the residents.

Companies mentioned in this article:

Cisco (CSCO US), Everbridge (EVBG US), Honeywell (HON US), Siemens (SIE GR)

GUARDS SECURE YOUR SITE WHILE YOU WORK REMOTELY

A Mature Market In A Technological Upgrade Cycle

The security services market

Guarding, alarm monitoring or cash-in-transit, have been around for decades. At first sight, it is a mature market that is experiencing consolidation. Technology adoption is driving sector concentration and margins.

- The global security services market is growing at 5% and is expected to reach $215bn by 2025.

Technological response drives margin expansion

The old-fashioned manned guarding is expensive and not able to detect threats efficiently on large sites. Technology is being increasingly used in combination with humans. Although special devices require a trained workforce, profitability of technology-intensive security companies is well above average.

- The technological response include HD surveillance cameras, thermal images, drones, sensors, and analytics.

Multinationals are taking over the market

Large security companies have the financial and operational means to offer the use of sophisticated technology to their clients. Moreover, they benefit from an international presence and may act as the single counterparty for the security services of multinationals. Partnering (when not outright acquiring) tech suppliers has been key to market share gains.

- In the U.S., the companies with revenues above $50mn increased their market share from 66% to 77% between 2012 and 2018.

SOURCE:
Freedonia, Prosegur, Securitas, Robert H. Perry & Associates, Security Magazine, AtonRâ Partners

Fear Of Crime Drives Growth

Opportunities in Emerging Markets

Emerging Markets, and especially Asia, represent the global engine of growth for security services. These regions rely on low labor costs, while urbanization and high activity in building construction boost demand for the guarding industry.

- The Asian market is growing almost at a double-digit rate and should be the largest market in the world by 2025 with sales above $60bn.
- China and India in particular are booming markets that will generate more than 50% of the region revenues in 2025.

A response to burglary

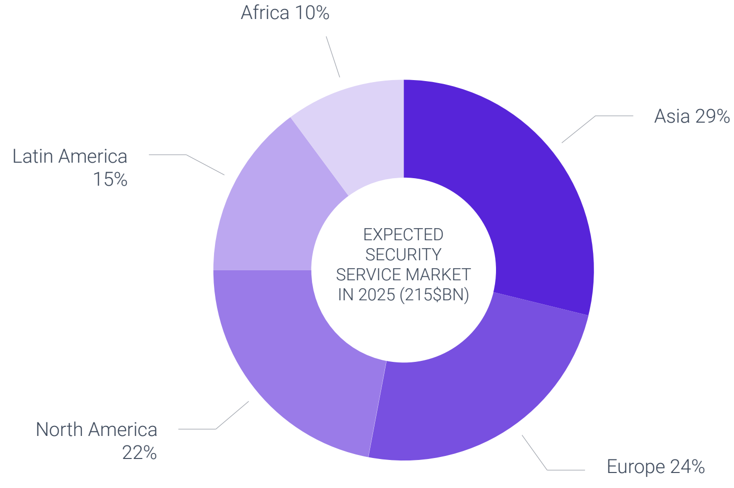
The FBI estimates that approx. 30% of the burglaries involve retail stores. The combination of remote guarding with alarms significantly reduces the risks of property theft.

- In the United States, burglary costs businesses over $800mn in property losses per year.
- 74% of uncompleted intrusions can be credited to an audible alarm.

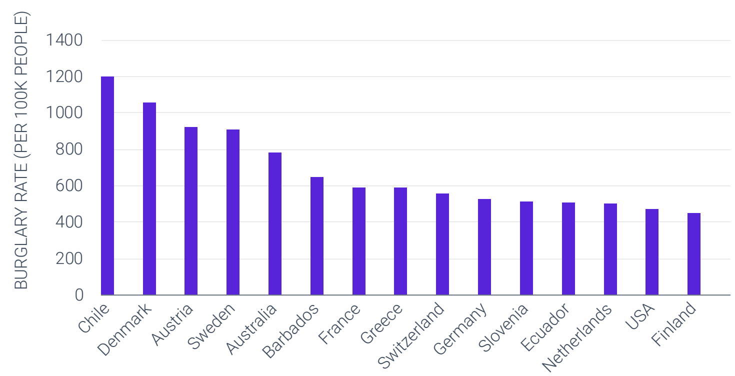
Rising inequalities drive the demand

The number of wealthy individuals is globally on the rise and the inequality gap has been widening. As an individual climbs up the social ladder, his or her perception of crime also increases, and wealthy people want to protect their physical assets.

- The Gini index, a measure of social inequality, has risen In the US, from 40.2 in 1978, to 48.6 in 2018. In China, it was at 32.2 in 1990, and at 38.5 in 2016.



BURGLARY RATE PER COUNTRY



SOURCE:
Freedonia, Securitas, World Bank, FBI, Knoema, US Census Bureau, AtonRâ Partners

Technology Increases Efficiency And Margins

Technology improves profitability

On-site guarding and protection services have traditionally been low value-added activities. Technology is changing this trend. With the help of electronic devices, fewer guards are required to secure a given area. Leaders' operating profits have room to grow – the more sophisticated the guarding solution, the higher the profit margins.

- Guarding is a highly competitive industry with profit margins as low as 4% - not sustainable for smaller companies.
- Remote monitoring is more profitable, offering margins above 8%.

Computer vision and motion detection

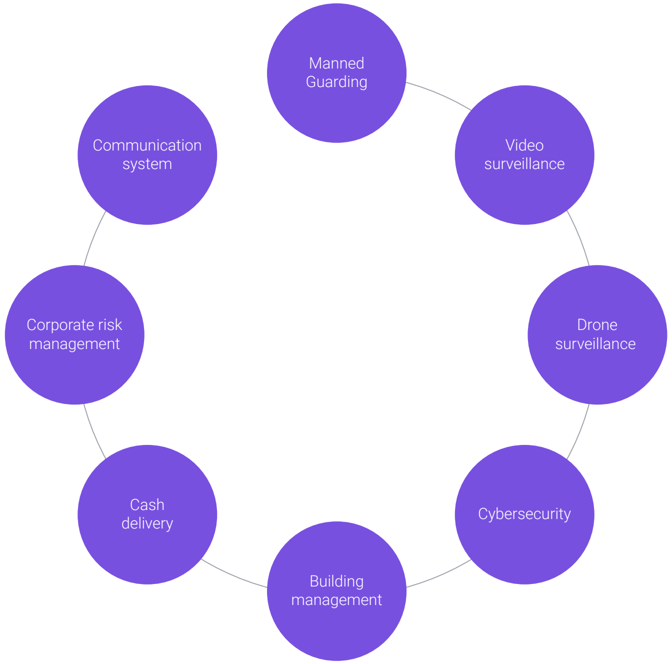
High definitions cameras have increased the potential number of interesting features within an image. The rise in computing power is allowing the use of AI-powered solutions to detect potential threats in real-time from images taken by video cameras. The next step will be to use AI to detect breaches before they occur.

- AI-powered behavior analysis may include the detection of area entrance and exit, the traversing of a virtual border, or an abnormal behavior within a crowd.

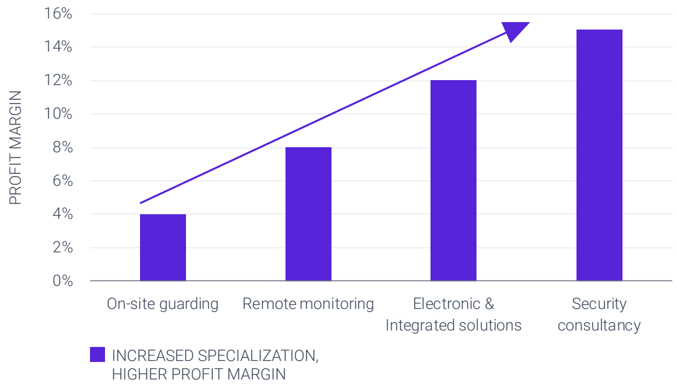
A technological answer to false alarms

Remote guards must constantly deal with false alarms that require time, and hence money, to be verified on site. Technology reduces costs and increases efficiency. Sensors and thermal cameras for night vision optimize video verification before first responders are dispatched to the field.

- According to IACP, 98% of alarms call in the United States are false alarms.



PROFIT MARGIN PER SECURITY SERVICES



SOURCE:
Freedonia, International Association of Chiefs of Police (IACP), Robert H. Perry & Associates

Larger Is Better

IA helps consolidate the industry and expand services

Historically, the goal of M&A activities for security service companies was to expand the geographical coverage and gain market share. Today, the acquisition of entities to develop high-tech capabilities is essential. Offering technological security solutions is a competitive advantage compared to local players.

- Allied Universal, a market leader in the United States, publicly announced 9 acquisitions in 2019, 3 of which related to pure tech solutions.

Clients' demand drives the trend

The significant investments made over the last few years in electronic services incurred by the larger players respond to the demand of the clients looking for a one-stop provider. These companies are now experiencing larger growth rates from this new segment than from the traditional manned guarding. Smaller companies do not have the financial strength to follow the trend are losing clients.

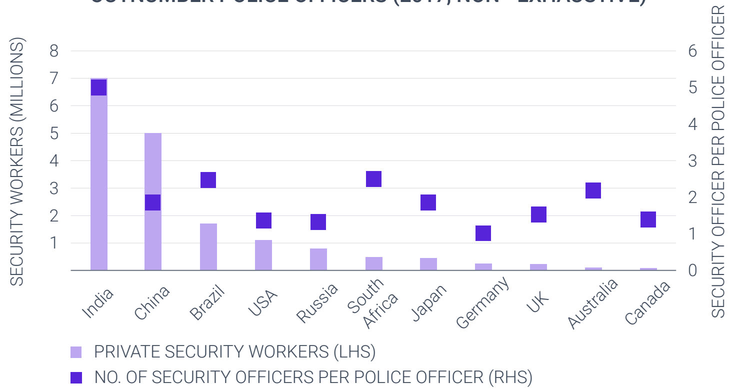
- The top-5 companies have a 25% global market share only. Consolidation is just starting.

If you cannot acquire technology, partner with the suppliers

Security companies rely on many partners to provide the technology or the devices they do not develop in house, e.g. video surveillance cameras. The larger suppliers benefit from the concentration wave, as they are the only ones able to provide products in large quantities and at a standard quality all over the world.

- Securitas and its peers collaborate on important projects with companies like FLIR Systems or Hikvision.

SELECTION OF COUNTRIES WHERE SECURITY OFFICERS OUTNUMBER POLICE OFFICERS (2017, NON - EXHAUSTIVE)



ROOM FOR CONSOLIDATION, EXAMPLE OF EUROPE (N = 44'811)

SOURCE:
Freedonia, Allied Universal, The Guardian, Confederation of European Security Services, European Commission

Catalysts

- **Increased regulations.** Security service companies must face an increased amount of regulations. Only the larger entities have the financial strength and the internal resources to adapt to the evolving legal framework.
- **US municipalities outsource security functions.** For budget reasons, many small localities prefer to outsource security to reduce costs. The political debates about the police role surrounding the death of George Floyd could accelerate this trend.
- **Terrorism event.** Fear feeds the security services market. A major terror attack would increase security budgets.

Risks

- **Staff turnover.** Security services experience a high staff turnover. The increased use of technology requires qualified personnel, a scarce resource. Pressures on labor costs could intensify.
- **Minimum wage increases.** Minimum wages are globally on the rise. If wage increases are not reflected in the clients' contracts, the already thin margins of the security firms offer little buffer.
- **Low barriers to entry.** It requires no capital to launch a guarding company. Being able to provide high value-added security services is essential to stay in business.

Bottom Line

- Security services are experiencing a revival thanks to the development of integrated solutions. Technology makes security services more efficient and increases the profitability of the companies.
- We monitor global market leaders for a materialization of the margin expansion. In the meantime, we are invested in the suppliers of these firms, e.g. providers of video surveillance solutions.

Companies mentioned in this article:

Allied Universal (not listed), FLIR Systems (FLIR US), Hikvision (2415 CS), Securitas (SECU SS)

OIL & GAS COMPANIES: GREEN IS THE NEW BLACK

Decarbonizing The Oil Industry

A new era has started

Many oil majors have announced plans to go carbon neutral and invest in clean technologies, driven by the recent oil crisis, related price volatility, and investors' pressure.

- Oil majors' climate ambitions have strengthened in the past six months with most European actors announcing commitments to reduce carbon intensity.
- Today, investments in low-carbon activity represent less than 1% of oil & gas companies' capex.

Different shades of green

While most actors pledge carbon reduction targets, everyone seems to have its own definition of carbon neutrality, depending on the scope of activity considered.

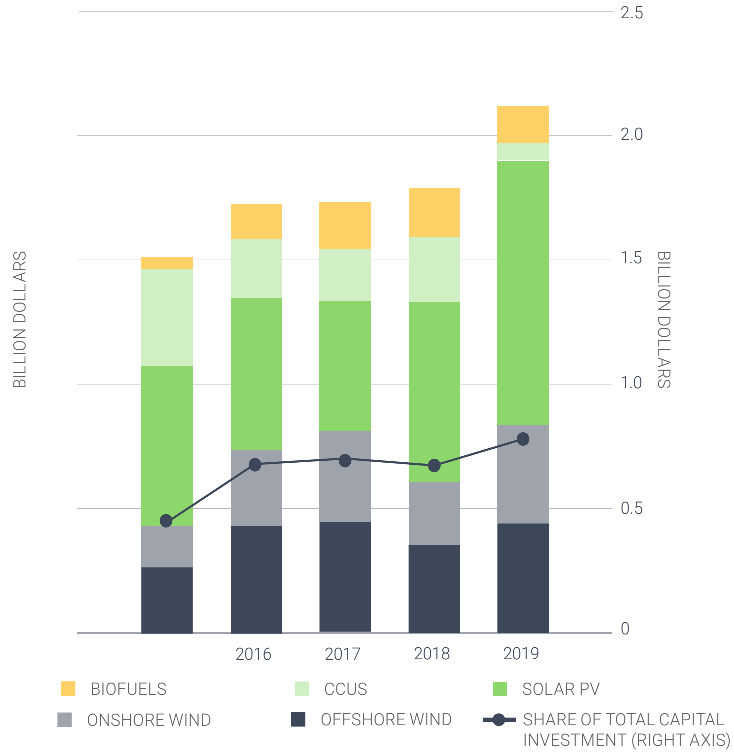
- Emission targets range from single-digit percentage reduction in operational emissions intensity to net-zero emissions throughout the entire oil & gas production and utilization (direct & indirect emissions).

Opportunity for the cleantech sector

Decarbonization of the Oil & Gas industry is a great opportunity for clean technologies since most strategies include diversification into zero-carbon assets.

- Multiple approaches & technologies can be used to reduce emissions: from electrification, energy efficiency, to carbon capture utilization & storage, hydrogen, or shifting business activity towards renewables.
- In 2019, about $2.1bn were spent by oil & gas companies on low-carbon projects, with more than 50% dedicated to Solar PV, a figure that is expected to grow in the coming years.

CAPITAL INVESTMENT BY MAJORS AND SELECTED OTHER COMPANIES IN NEW PROJECTS OUTSIDE OIL AND GAS SUPPLY



SOURCE:
The Oil and Gas Industry in Energy Transitions, IEA, 2020
BNEF Oil: The Months in Short, May 2020

Moving Away From Oil

From big oil to big energy

While the world's dependency on oil won't entirely stop overnight, the clean energy transition is impacting oil companies' strategies. The switch from "big oil" to "big energy" is at its beginning but clearly already underway.

- In IEA's sustainable development scenario, electricity is to overtake oil and becomes consumer's main energy spending in the next decade.

Oil is not as profitable as it used to be

The recent oil crisis has demonstrated the uncertain nature of upstream oil investments while showing the stability & resilience of renewable assets. Revised oil prices forecasts forced many oil majors to announce sizeable asset writedowns.

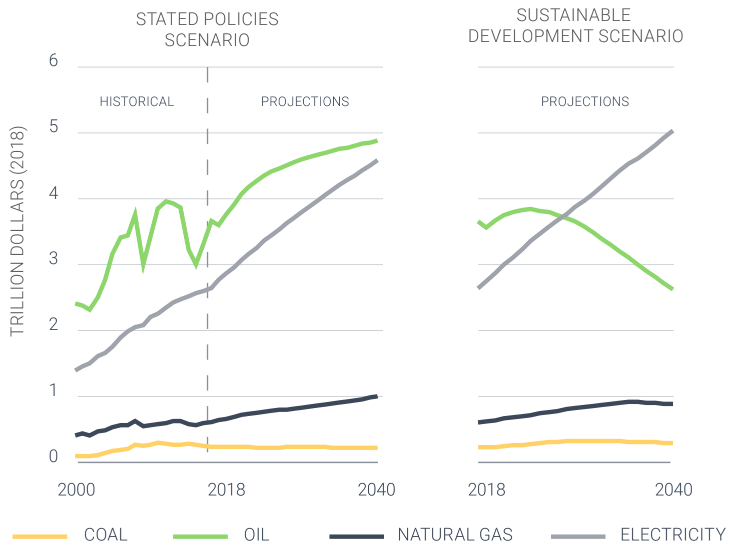
- $43bn of writedowns have already been announced and more is likely to come as the practice is likely to generalize to all oil majors.

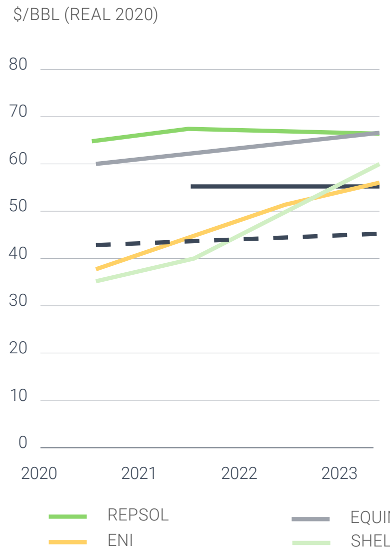
ESG and responsible investment adding pressure

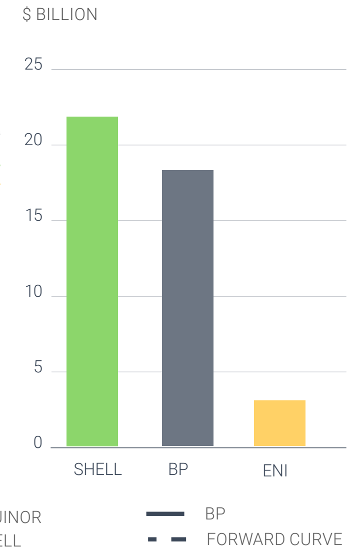
Increased pressure from financial, social and political sectors is challenging the "business-as-usual" model, forcing oil companies to address environmental impacts and develop sustainable business models.

- The oil and gas industry accounts for 42% of global greenhouse gas emissions and ESG-sensible funds are avoiding fossil-fuel investments.
- In 2018, so-called "sustainable investments" were estimated to have reached $30.7tn of assets, about a third of global assets under management.

GLOBAL END-USER ENERGY SPENDING BY SCENARIO







SOURCE:
The Oil and Gas Industry in Energy Transitions, IEA, 2020,
[The future is now: How oil and gas companies can decarbonize]
[2018 Globalsustainable Investment Review]

Is «Net-zero Emissions» Just Green-wash?

Emissions reduction has become unavoidable

Oil & gas companies are under severe pressure to show they are taking measures to decarbonize their activities. Many Oil majors have announced targets to clean-up their business, however these targets are deliberately vague and inconsistent among players.

- Some have established strict & stringent targets but many others have very light climate goals, and are being accused of greenwashing.

Separating the wheat from the chaff

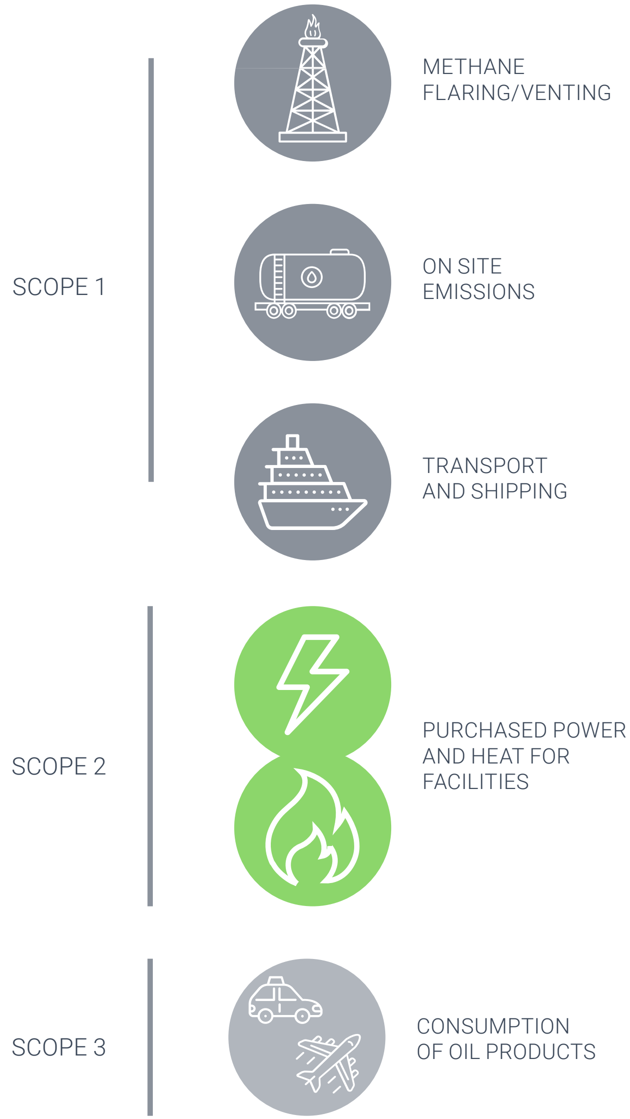
Reduction targets differ depending on the emissions' "scope". Scopes 1 and 2 concern emissions directly related to the companies operational activities (direct emissions from operations like extraction, transport, etc. and indirect emissions from the generation of electricity or hydrogen used in the process). Scope 3 represent the emissions related to the energy products they sell to consumers (i.e. emissions from the vehicles powered by their fuel).

- Scope 1 & 2 account for about 20% of the full life-cycle emission intensity.

A thin line between greenwashing and sustainability

Integrating Scope 3 into the carbon reduction targets means that the company is assuming the responsibility of such emission (and not transferring it to the consumer) and implies a long-term strategy of moving away from oil production.

- The cleanest approach is to consider all scopes 1, 2, and 3 and provide absolute limits to carbon emissions.



SOURCE:
Absolute Impact: Why oil majors' climate ambitions fall short of Paris limits

Different Visions Of «Net-zero Emissions»

Several approaches to reduce emissions

To distinguish between these strategies, one needs to look at scopes covered, at whether emissions are considered on an absolute basis or only on intensity, and at the scale (how much and by when).

- If focus remains on proportional levels, target could be achieved without reducing oil production but by increasing other less-pollutant activities.
- Just improving environmental efficiency of standard activities means that the total emissions, in absolute values, can potentially keep on increasing.

European oil majors are one step ahead

Most majors have announced reduction goals but the main differentiator is on scope 3 targets, and European majors are clearly leading the way.

- BP and Repsol have a zero-oil vision.
- Shell, Total, Equinor, and Eni have an "oil + clean energy" vision.
- US companies like Chevron and Exxon intentionally omit scope 3 in their targets.

Paris' Agreement still the guiding light

What has been announced so far won't be enough to meet Paris Agreement's climate goals, but is already a significant step in the right direction. More can be expected as this trend spreads across the various oil majors.

- A recent study showed that world's largest oil & gas companies must cut their total production by 35% by 2040 in order to reach the 2°C goal set by the Paris Agreement on Climate change.

RANKED COMPARISION OF COMPANY EMISSION TARGETS COVERING UPSTREAM PRODUCTION

Rank	Company	Metric	1.CHARACTERISITCS		2 .SCALE	
			Absolute basis?	Scope 3 emissions	Interim	2050
1.	Eni	Emissions from O&G production	Yes	Yes	30% by 2035	80%
2.	Repsol[1]	Emissions from O&G production	Yes	Yes	–	Net Zero
3.	BP	Emissions from O&G production	Yes	Yes	–	Net Zero
4.	Shell[2]	Emissions intensity of all energy sales	–	Yes	2-3% by 2021 30% by 2035	65%
5.	Total[3]	Emissions intensity of all energy sales	–	Yes	15% by 2030 40% by 2040	60%
6.	Equinor	Emissions intensity of all energy sales	–	Yes	-	>50%
7.	Chevron	Operational emissions intensity	–	–	5-10% (oil) and 2-5% (gas) by 2023	–
8.	Cono-co-Philips	Operational emissions intensity	–	–	5-15% by 2030	–
9.	Exx-on-Mobil[4]	Operational emissions intensity	–	–	10% by 2023	–

SOURCE:
Absolute Impact: Why oil majors' climate ambitions fall short of Paris limits

Multiple Pathways To Benefit Cleantech

Existing technologies to the rescue

Reducing emission from oil & gas operations (scopes 1 & 2) can be easily achieved by implementing mature cost-efficient technologies & practices, such as methane flaring reduction, enhanced oil recovery (EOR) with captured CO2, digital optimization of processes, using renewable-based electricity, etc.

- It appears that about 40% of the emission reduction solutions have a positive net present value at current carbon prices, with an average emissions abatement cost of $50 per ton of carbon-dioxide equivalent.

Oil & gas industry can help nascent cleantech to reach maturity

While most of the cleantech investments have been so far directed to small unit-scale mass-produced technologies (e.g. solar PV, EV batteries, heat pumps, etc.), the energy transition does also need some large-size technologies which tend to feature higher upfront capital & risks. Oil & gas players would be best positioned to boost such investments as they hold resources and skills needed to scale up.

- Carbon capture storage and utilization (CCUS), green hydrogen, or biofuels, could benefit from oil & gas' expertise in engineering and project management.

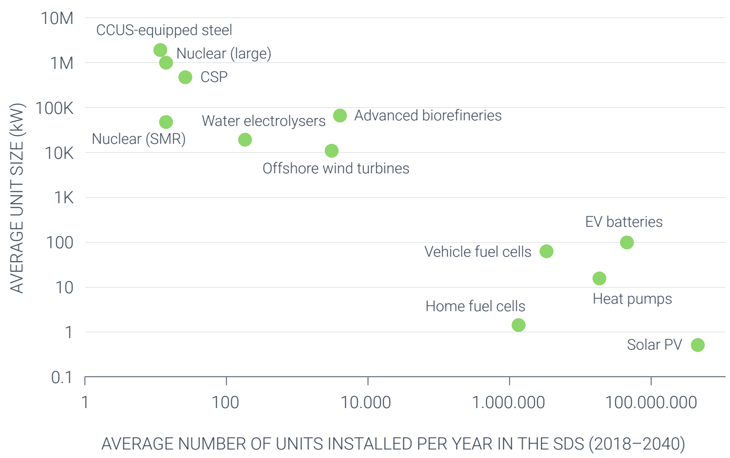
Portfolios reallocations to benefit renewables

Oil companies willing to target scope 3 emissions are likely to reallocate part of their activity to renewables; a significant opportunity for the sector.

- For every 1mn barrel/day of oil equivalent produced, oil companies would have to deploy 200-350GW of wind or 500-1'000GW of solar capacity to achieve an emission intensity reduction of 50-65%.

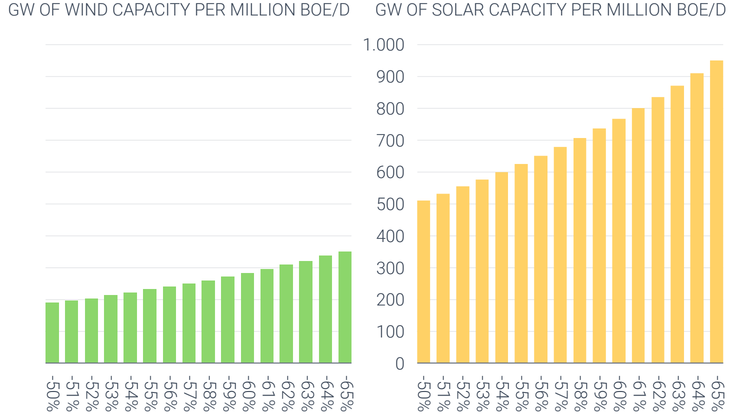
SOURCE:
The Oil and Gas Industry in Energy Transitions, IEA, 2020
BNEF Oil: The Months in Short, June 2020

A RANGE OF LARGE UNIT-SIZE TECHNOLOGIES ARE REQUIRED FOR BROAD ENERGY TRANSITIONS



NOTES: CSP=concentrating solar power; SMR=small modular reactor. Capacities refer to rated maximum energy output. For technologies that do not have output rated in energy terms, energy throughput for the relevant technology component is used.

STRATEGIC VISIONS IMPLIED BY SCOPE 3 TARGETS ANNOUNCED TO DATE



SOURCE: BloombergNEF.
NOTE: these estimates assume average capacity factors for wind and solar of 38% and 14% respectively, and 6.250MJ of energy products per barrel of oil equivalent.

Catalysts

- **Oil price volatility.** Recent oil price collapse has shown the uncertainty underlying the sector which is pushing oil players to diversify their activities.
- **Climate policies.** Governments' regulations, such as carbon taxes or EVs subsidies, could incentivize oil & gas players to accelerate their transition to clean technologies.
- **Increased investor pressure.** Investors are increasingly challenging companies for setting GHG reduction targets and disclosing sustainability performances (e.g. the upcoming EU taxonomy of Sustainable Economic Activities and the Task Force on Climate-related Financial Disclosures).

Risks

- **Regulation laxity.** Carbon reduction initiatives are not necessarily made mandatory by governments, leaving many companies with the choice to keep doing business-as-usual and leverage on greenwashing advertisements.
- **Shift to petrochemicals.** Oil & gas players might decide to rush investments in other «less harmful» sectors, such as petrochemicals or LNG, and put aside clean energy solutions.
- **Oil crisis hitting green investments.** The recent oil price shock could end up impacting low-carbon investments in the short term, as companies become focused on slashing costs and capital spending.

Bottom Line

- The recent hype around Oil majors' net-zero targets and impairments considerations are steps in the right direction but much more efforts are needed to meet the Paris Agreement's objectives.
- Oil companies have no choice but to look for new business areas, and clean technologies seem to be the most logical pathway.
- We believe that this "green investments" trend will benefit many sectors covered by our Sustainable Future certificate, ranging from solar & wind energy to biofuels, energy storage, and green hydrogen.

Companies mentioned in this article:

Eni (ENI IM), Repsol (REP SM), BP (BP LN), Shell (RDSA NA), Total (FP FP) Equinor (EQNR US), Chevron (CVX US), ConocoPhillips (COP US), ExxonMobil (XOM US)

CHARTS FOR THOUGHTS

Stocks And Inflation

Is the market expensive?

The chart of the SP500 expressed in terms of Average Hourly Earnings (AHE) is close to all-time high, indicating a growing divergence / disparity between the income from labor vs the income from capital.

- Some analysts infer thus that the market is currently very expensive, even in "real terms".

A world of inflation

Adjusting for inflation though, stock prices and AHE show differing trends, depending on the inflationary situation. Note that there are differences in scale and magnitude.

- Indeed, in the past 25 years, earnings growth has been mainly driven by technology and related productivity gains, that do not impact real wages in a similar manner.

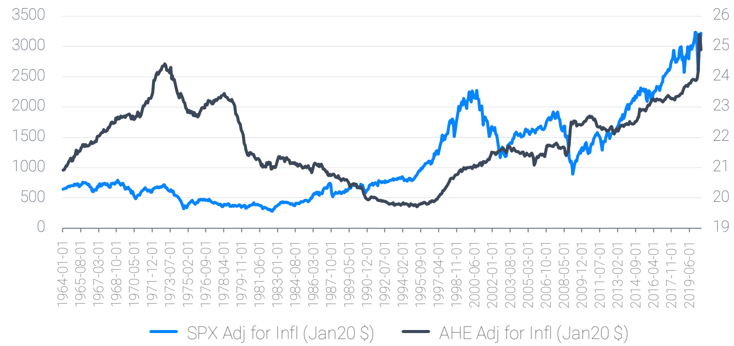
Are equities a hedge against inflation?

In periods of very high inflation (mid '70s to mid '90s) real wages (and purchasing power) tend to go down, while real assets keep their value. The chart here seems to indicate that in such periods (highlight box), the stock market offers a great shelter against a loss of purchasing power.

- What if the current global policy response to COVID-19 is going to trigger a period of renewed inflation?

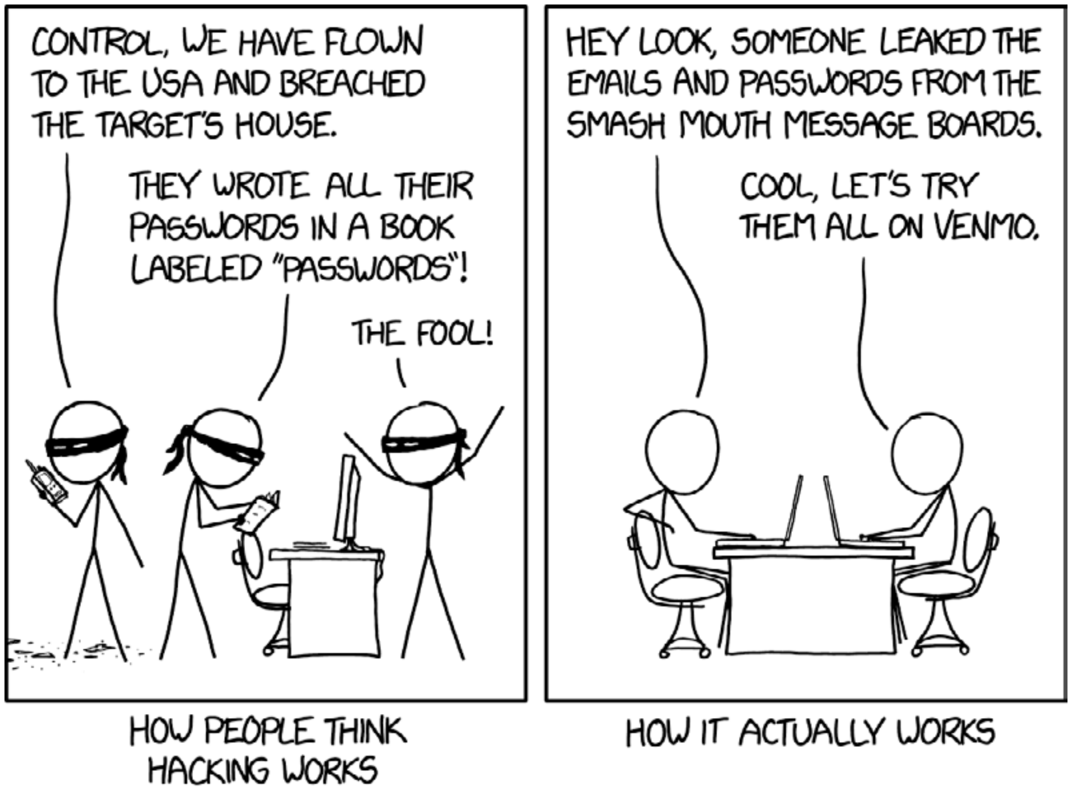
AVERAGE NUMBER OF HOURS OF LABOR TO BUY ONE 'UNIT' OF SPX

AHE AND SPX ADJ FOR INFLATION



SOURCE:
FRED, Federal Bank of St Louis

CASUAL FRIDAY



SOURCE:
https://xkcd.com/2176/

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AtonRâ Partners is an asset management company, founded in 2004 with head office in Geneva, incorporated under Swiss law, duly approved by the Swiss Financial Market Supervisory Authority (FINMA) under the Swiss Collective Investment Schemes Act.

AtonRâ Partners is a conviction-driven asset manager combining industrial and scientific research with financial analysis. AtonRâ Partners focuses on long-term trends powerful enough to be turned into thematic equity portfolios.

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