

New Technologies and Megatrends shaping the future of Insurance

Frost and Sullivan Value Proposition



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Introduction

- New technologies and new markets, together with political and social trends, are creating opportunities across many industry sectors – this is transforming the traditional insurance business model.
- Insurance firms' future success will depend on their ability to innovate in areas related to new technologies, new skills, and new partnerships coming from other sectors.
- Digitalization, Autonomous driving, Telemedicine are some examples of the transformations happening right now, with the potential to open up new avenues for growth in the insurance sector.
- Customers are less loyal and more demanding. Non traditional competitors are entering the market forcing insurers to reconsider their entire value chain. What actions should insurance firms take to address the impact of those transformations?
- This presentation focuses on the main new technologies and Mega Trends shaping the future of Insurance, and provides some elements to estimate their impact.
- Frost and Sullivan is the ideal partner to support companies in the Insurance sector in taking advantage of market transformations, identifying relevant growth opportunities, and implementing effective strategies.

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New Technologies and Megatrends that will transform Insurance



Usage Based Insurance

Shift to usage based models to improve customer retention rate, reduce frauds and claims management costs



Autonomous Driving

Driverless cars pose new forms of risk and will transform motor insurance strategy



mHealth

mHealth devices / applications and wearable technologies will allow Insurance to better understand and monitor the risk profile



Internet of Things

Extensive adoption of internet of things (connected home, smart Building, internet of Industrial things...) to identify and monitor risks



Digitalisation

Digital channels will compliment and progressively replace physical channels



Big Data

Customer data collected from different sources including Social Media will improve claim processing

New Technologies and Mega Trends that will transform Insurance

Continued



Non Traditional B-Models

Partnerships and acquisitions with non-traditional firms in insurance (e-commerce, distributors...) will enlarge the customer base and improve skills



Peer-to-Peer

A new business model that will generate new low-cost competitors



Cyber Security

Development of cyber insurance to cover cyber attacks



Digital Imagery

Aerial imagery and digital imagery processing will be adopted in causality / industrial / agriculture Insurance to assess risks and accelerate claim processing



Gamification

Use of game thinking and mechanics in real-life contexts to increase interaction with customers and employees

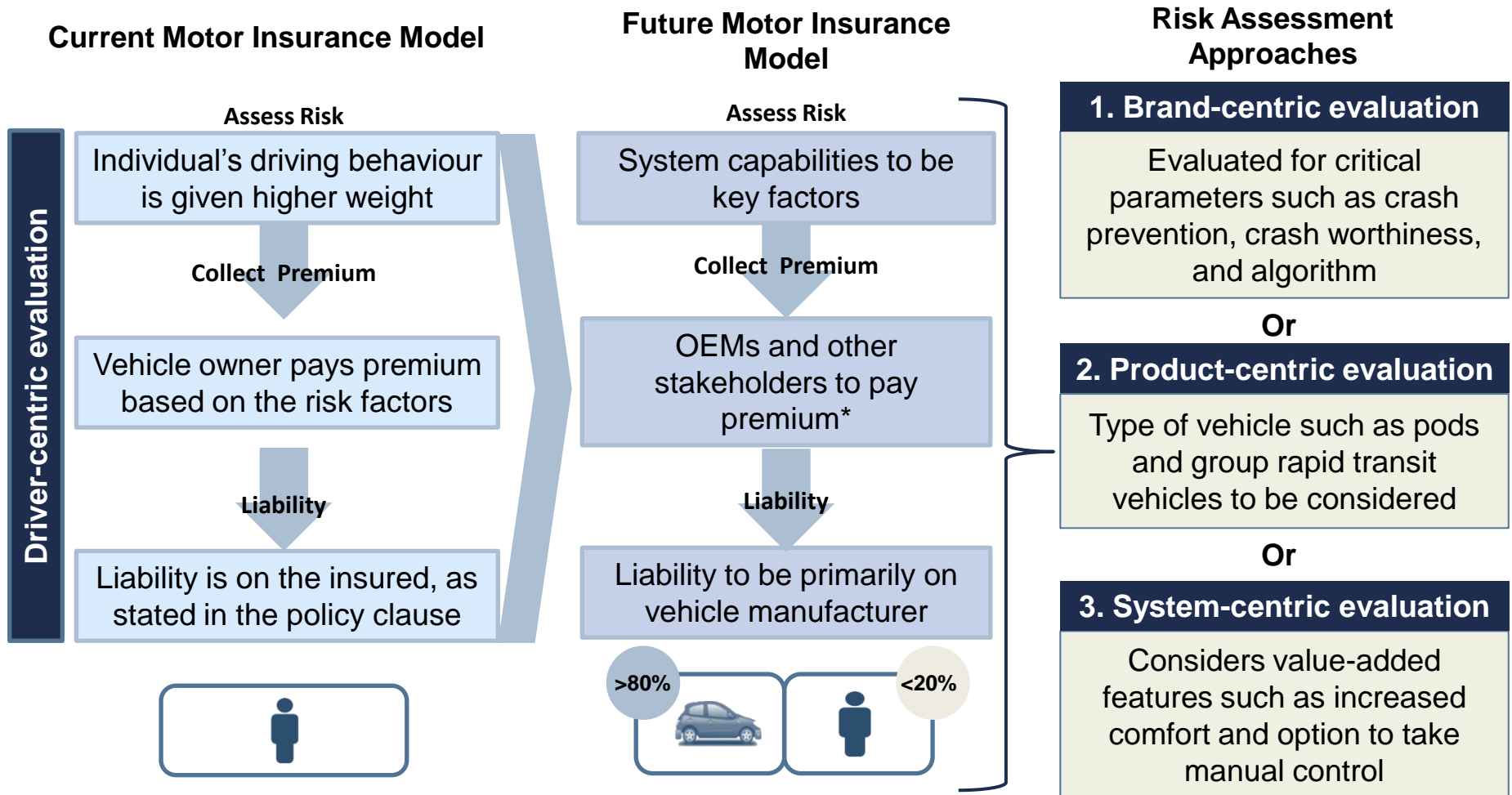


CRM Apps

Development of customer adherence applications

Autonomous Driving

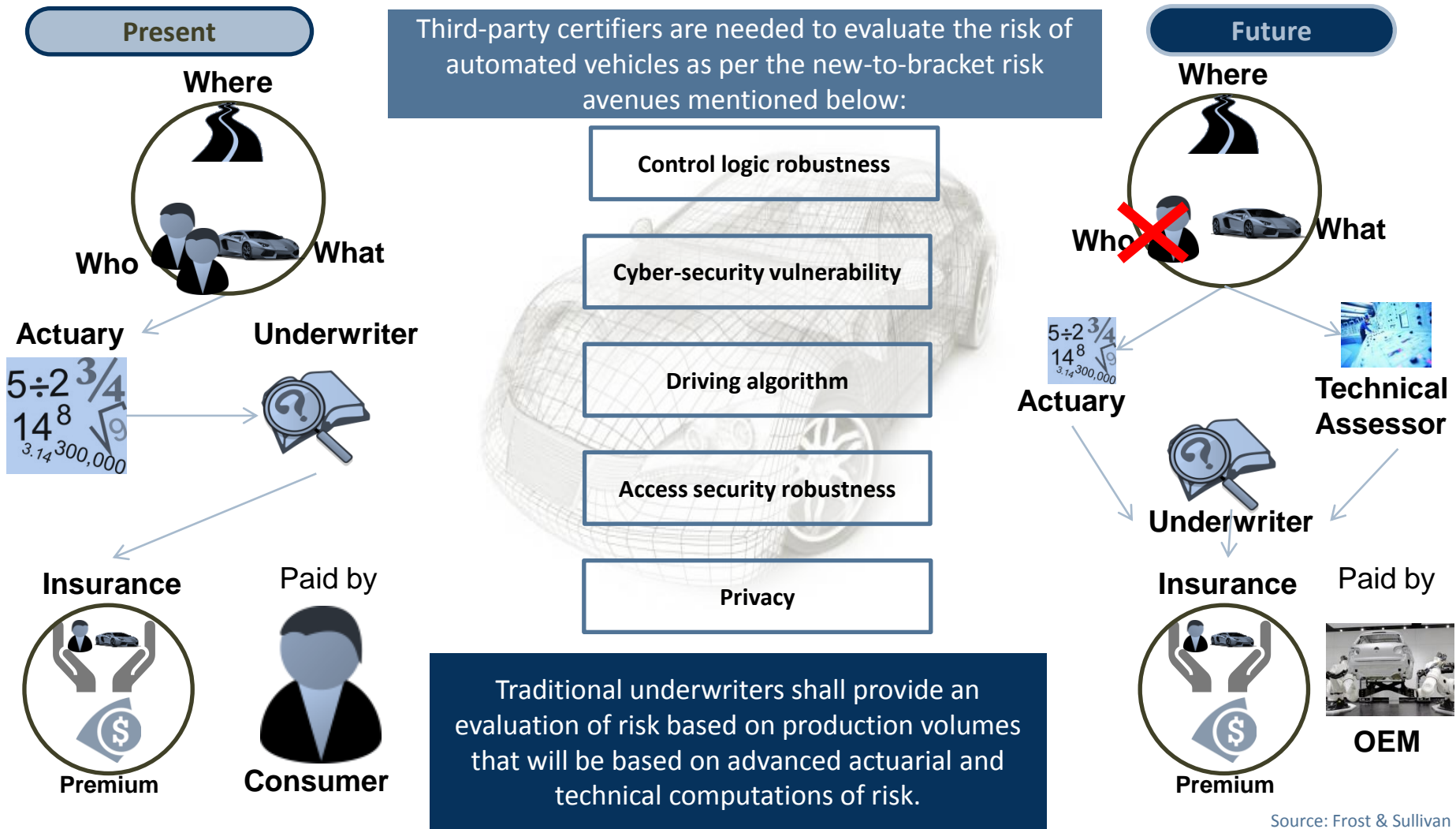
With the driver no longer responsible for controlling the vehicle, driver-related parameters lose their weight; will the onus of paying premiums shift to the OEM?



*Vehicle owner pays premium to cover some excesses such as theft, fire, and vandalism.

Autonomous Driving

A new set of risks need to be assessed technologically and commercially before allowing vehicle-driving algorithms to replace human input



Source: Frost & Sullivan

Usage-based Insurance

Telematics-based delivery options for motor insurance

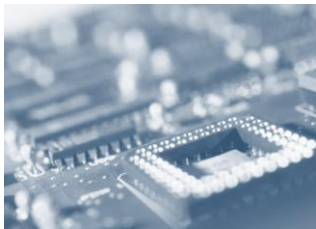
Hard-wired (Black box)

- A dedicated telematics box is installed in the vehicle
- The upfront cost depends on the type of provider
- Requires installation; costs more
- Needs an active telematics subscription

Unique selling proposition (USP):

- Comprehensive solution with extensive customisation
- High accuracy

Examples: Octo Telematics, Wunelli, and Cobra



Portable–OBD II-based

- The insurance company sends the device; no professional installation is required
- No upfront cost; no subscription cost; users do not own the device
- Customers can send the device back if they are not satisfied with the policy during the contract period

USP:

- Easy to use
- No installation required

Examples: DriveProfiler (Scope) and Octo Telematics



Independent–Smart phone-based

- Internet availability in the phone, along with GPS, makes it a powerful tool
- Can be offered as a supplement for embedded systems
- Opportunity to offer real-time driving information to improve insurance premiums

USP:

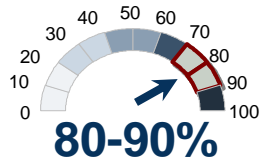
- Option to become mass market
- Can be offered as 'try before you buy'
- Mitigates capital expenditure and deployment problems

Examples: MyDrive, Moveo, Wunelli, More Th>n, SoteriaDrive, and Aviva



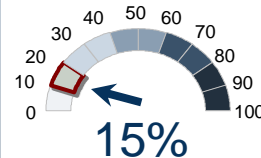
Usage-based Insurance

Benefits for the Insurers



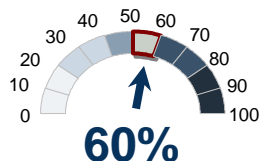
Customer Retention Rate

UBI ensures a high customer retention rate of up to 90% as insurance premiums are reduced



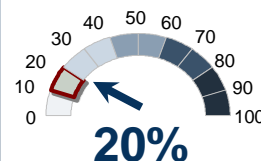
Elimination of Fraudulent Claims

UBI has helped identify 15% (on average) of the claims as fraudulent, which yields savings for insurance companies



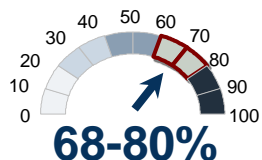
Reduction in Claims Management Cost

Savings of up to 60% on claim payment can be achieved as the case data is presented through a crash report



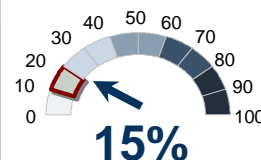
Decrease in Vehicle Repair Cost

UBI yields savings of up to 20% on claim cost, as the vehicle is repaired in the company-prescribed service outlet



Recovery of Stolen Vehicles

By using a telematics system, 68-80% of stolen vehicles have been recovered, on average. This ensures savings on the total claim cost for stolen vehicles



Diminished Bodily Injury Cost

By reducing serious damage due to timely aid, UBI yields savings of up to 15% on claim cost

Big Data Analytics

Examples of how health insurers could leverage the technology

South African health insurer **Discovery** uses Big Data analytics in its Vitality program.

Information collected from wearable devices is used to build insights and calculate individualized risk.

Estimates suggest instances of lapsed policies reduced by 52% and mortality rate by 34%.



Data Processing



Fraud Detection

Most insurers are beginning to use Big Data analytics for fraud detection.

Predictive analyses use combinations of rules, modeling, text mining, database searches, and exception reporting, as well as using person-centric techniques such as pattern and cohort analysis.

South African life insurer **AllLife** uses Big Data analytics for HIV and diabetes life insurance.

With medical tests performed every 6 months, AllLife assesses policyholder risks using analytics. Necessary medical interventions can be initiated if necessary.



New Products & Services

Better Decision Making



American health insurer **UnitedHealthcare** uses Big Data analytics to improve customer satisfaction.

All customer calls to its call center are converted to text and searched for indications of dissatisfaction. Predictive models are employed to identify attrition-risk customers and deploy necessary interventions.

Source: Frost & Sullivan

Internet of Things

The case of AXA in France on connected home insurance



While most established insurers have the resources to invest and explore opportunities presented by technological advances, they choose not to. Member self-monitoring, the best risk management strategy, needs to be exploited.



Creating a 'smart' insurance network aimed at clients who wish to better protect their homes against intrusion and fire, using connected devices



Establishing an ecosystem with connected device manufacturers based on software interoperability:

- Allows inflow of data from devices to the My AXA app
- Offers preferential monthly rates on devices for customers (or weekend rates for one-time use)

Devices offered:

- Video surveillance
- Intrusion sensors
- Smoke detectors
- Smart plugs
- Connected lights for presence simulation

In case of alerts, customers can avail of AXA Assistance services to dispatch security guard on-site.



- Customers benefit from latest technological innovations to protect assets
- AXA benefits from customers' self-monitoring to reduce/limit claims

Health Insurance Application:

- Pay-as-you-use for wearable/monitoring devices—by month?
- Connect directly to insurer platform for automated data collection?

Source: AXA (France), Frost & Sullivan

Internet of Things

Wearables, all healthcare entities benefit from it, and innovative payers have developed business models around it

Stakeholder Benefits



Hospital

Reduce re-admissions, patient process time, and test duplications



Physician

Access comprehensive patient data and history for improved decision making and diagnosis



Patient

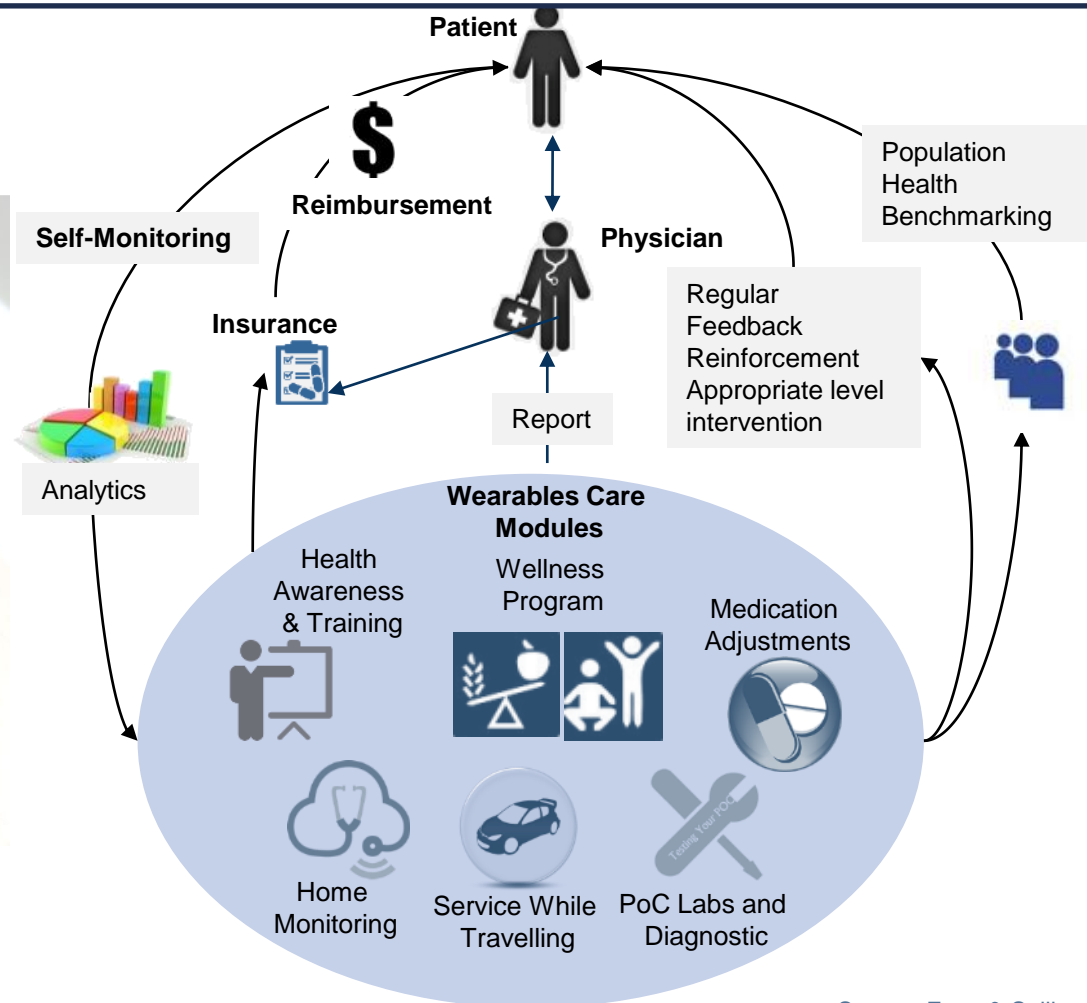
More informed about personal health and wellness; reduced treatment time



Payer

Reduce treatment cost, hospital length of stay, and overall process efficiency

Wearables Enabled Decentralised Care Model, 2020



Source: Frost & Sullivan

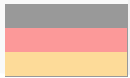
Digitalisation

Embracing digital transformation, tapping the tech-savvy customer pool



Digital portal offers simple and transparent information on products

It also empowers customers to engage in product development, leading to customer-designed products that better suit their needs.



Germany

Digital Adoption in Life Insurance

Digital marketing campaign called 'Second Life' to improve insurance awareness

Includes videos of human-interest stories promoted on social media networks; YouTube, Facebook, and Twitter directing viewers to the website for learning more about life insurance



India

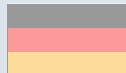


Allows buying insurance on smartphones

Enables customers to enter information and answer health questions on smartphones and use electronic signatures to buy insurance policies.



Germany



I-Life, an insurance policy accessible on smartphones

- Full quote provided online in 5 minutes
- Incentives for maintaining good health
 - 10% discount for undergoing medical checkup
 - Additional 10% discount if found in good health



Italy



United Kingdom



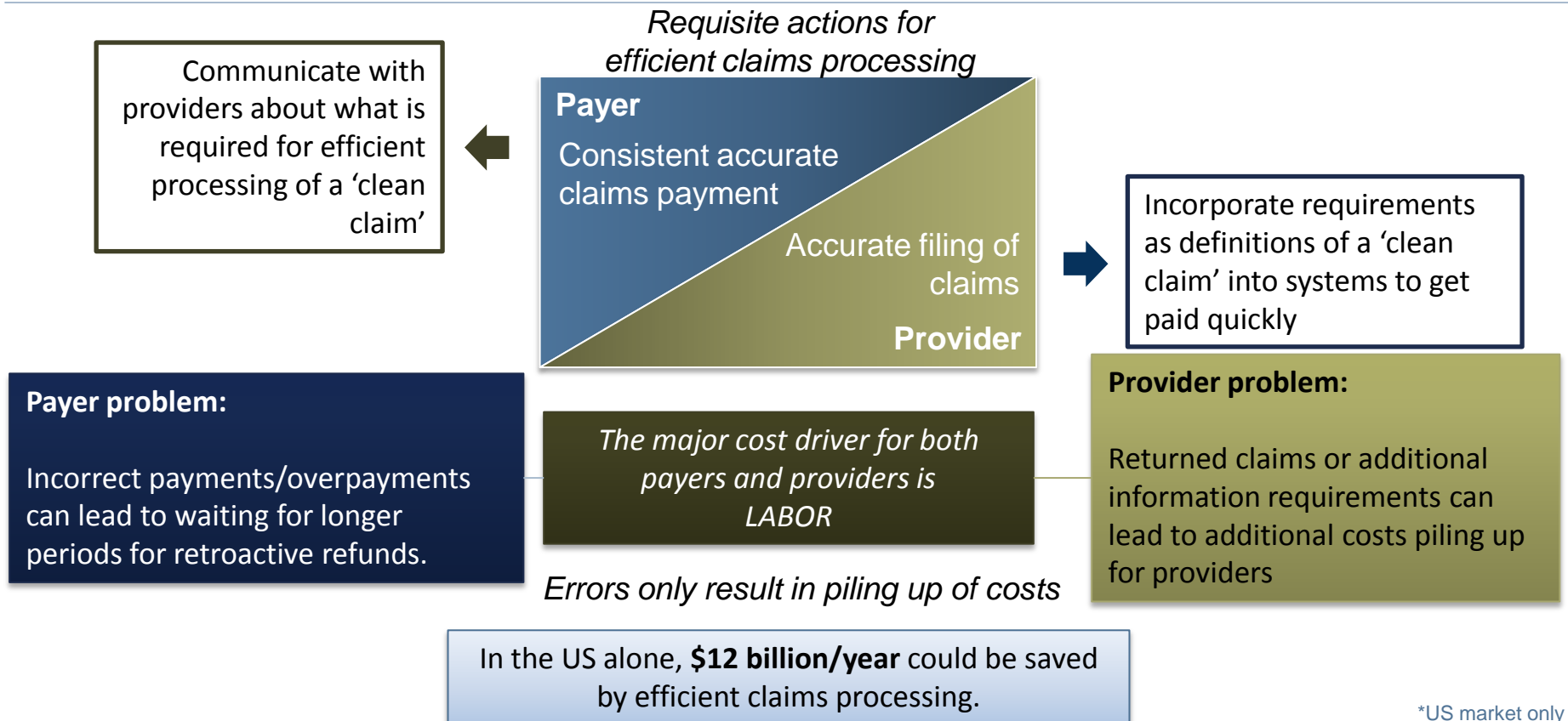
Online life insurance company

Source: Frost & Sullivan

Digitalisation

Claims Processing will improve efficiency and reduce losses

Average adoption of fully electronic transactions among measured transactions*	93.8%	70.5%	61.4%	56.5%	49.6%	48.7%	10.2%	6.2%
	Claim submission	Eligibility and benefit verification	Claim payment	Claim status inquiry	Remittance advice	Coordination of benefits claims	Prior authorization	Referral certification



*US market only

Source: *2015 CAQH Index, American Medical Association, Frost & Sullivan



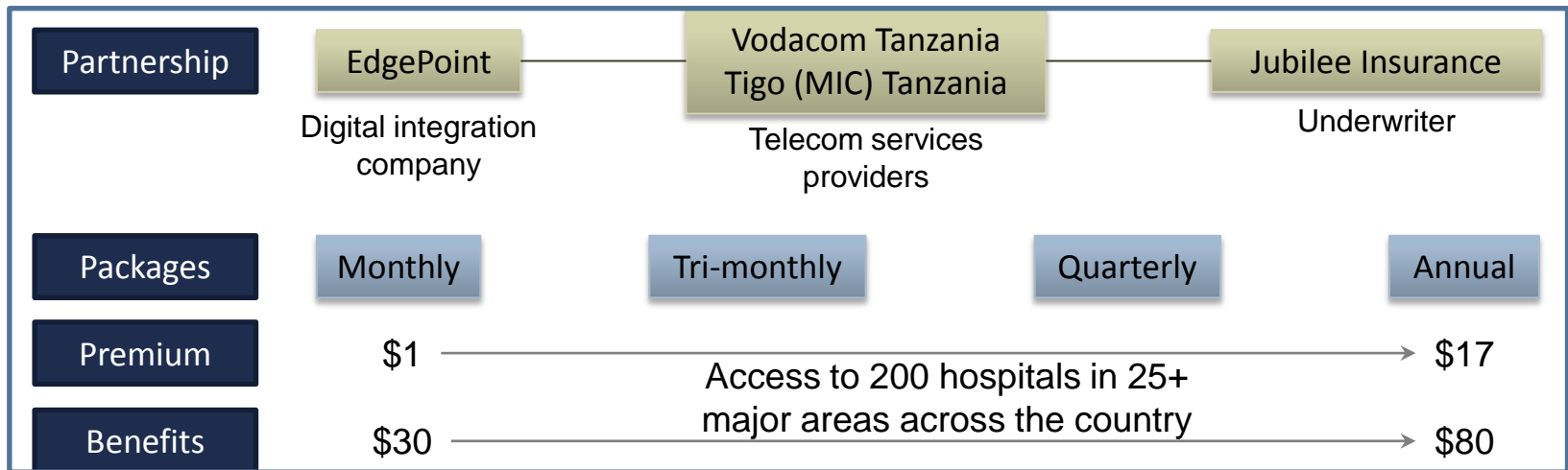
Only 18% of Tanzanians are covered by health insurance, mostly employer-based. High, unaffordable insurance premiums are cited to be a major reason for such low coverage rates.



Tanzania



BimaAFYA is a unique micro-health insurance product that has proven to be the most affordable solution available to Tanzanians. It is backed by a completely mobile-based platform.



With a technology back-bone, BimaAFYA has a completely paperless process from registration to claims, allowing it to eliminate 99% of the administrative costs and provide insurance cover at extremely cheap premiums beginning at \$1 (TZS 2,700).

It plans to expand to Ghana, Nigeria, Malawi, Congo, and other African countries.

Source: EdgePoint, Frost & Sullivan

Non Traditional Business Models

Health payer to e-commerce participant: the case AXA in the UK

Health insurance is the only business that makes (saves) money by making people healthier—fitness apps, wearables or social networks, or even e-Commerce websites do not.

Realizing this, AXA PPP Healthcare started an eCommerce platform, MyActive+, to sell discounted health technology and other wellbeing products and services.



United Kingdom



The rationale behind the platform is to enable customers to take charge of their health and health decisions and drive healthy behaviors. The platform offers 6,000+ health products including beauty, diet and nutrition, sports & fitness, independent living (mobility) as well as fitness courses.



Order fulfillment is the responsibility of suppliers, with whom preferential discounts are negotiated for members. AXA's goal is to improve the health of its member base and bundle free health coaching with its products. Pricing is not competitive when compared to Amazon or other platforms.



Behavioural analysis helps categorize users into segments to decide which products and incentives would most likely tempt an individual.



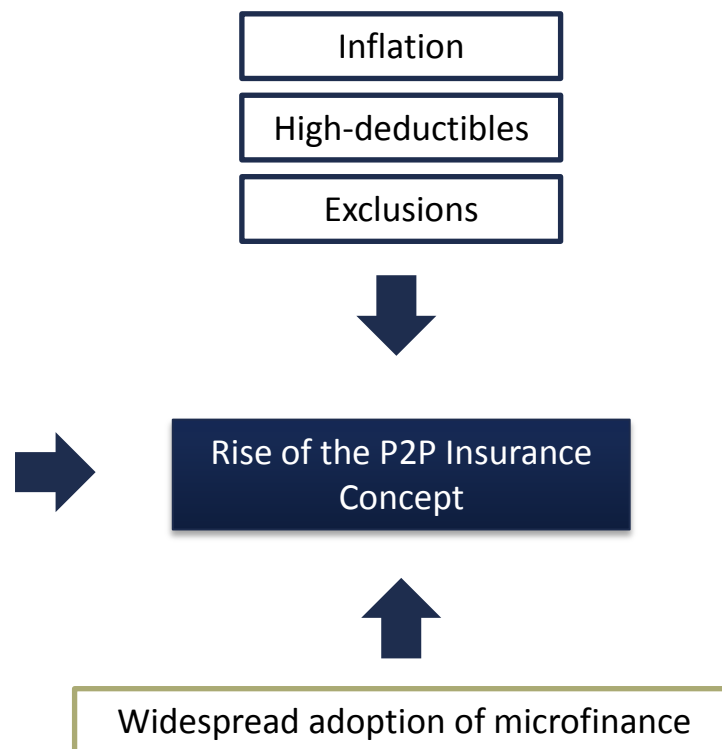
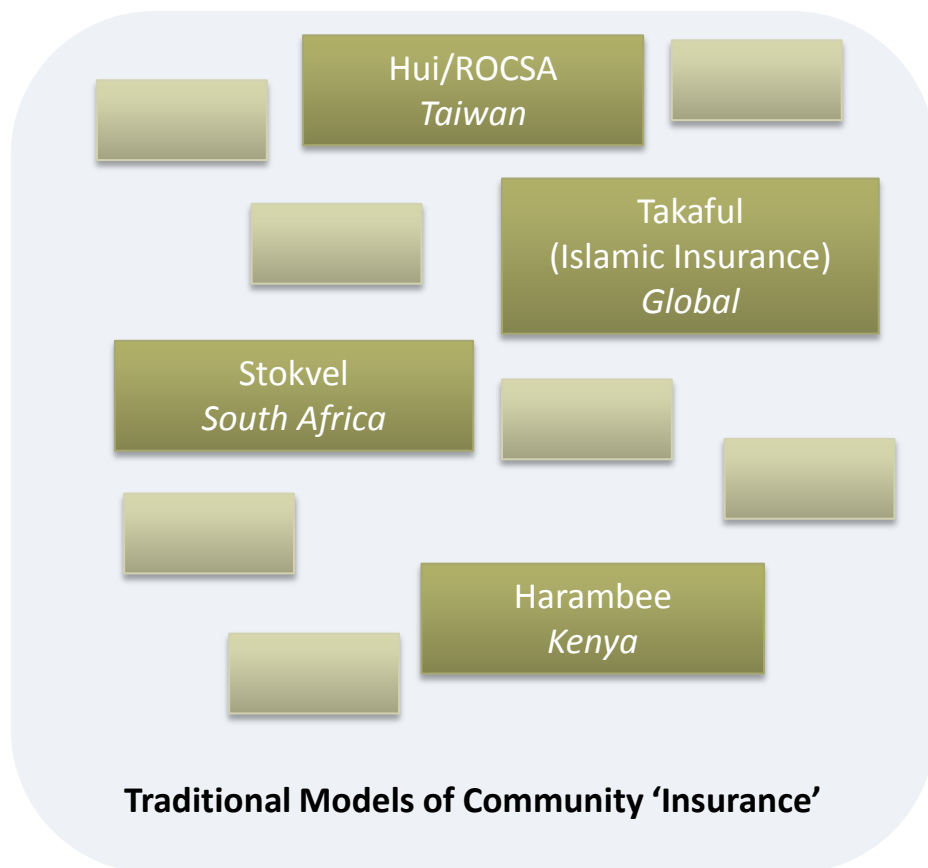
Future plans include expanding product variety and tying health/fitness monitoring devices records to reward points redeemable on the MyActive+ platform for products and services.

Source: AXA PPP Healthcare, Active+, Frost & Sullivan

Peer-to-Peer Insurance

Various companies have established P2P insurance models

Taking inspiration from traditional community borrowing systems, various companies have established P2P insurance models around the world, but mostly in the property and casualty lines. There are attempts being made to bring it to health insurance, but whether those plans achieve fruition remains to be seen.



Source: Frost & Sullivan

Peer-to-Peer Insurance

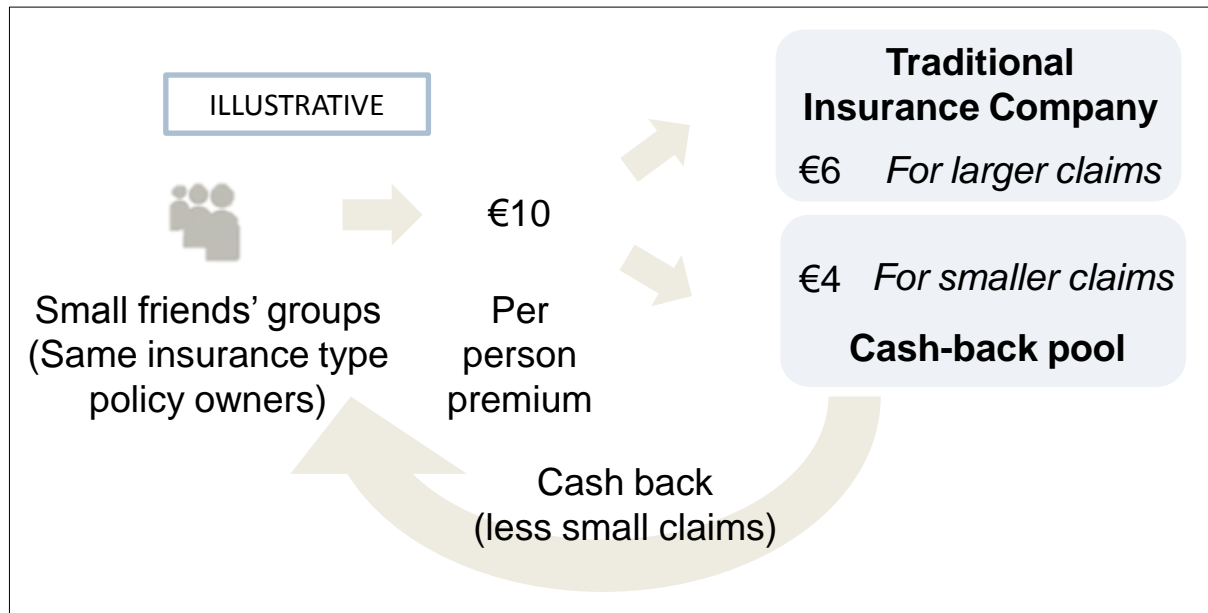
Insurance for the Deductible, the case of FriendSurance



Private insurance is expensive, especially for the young and healthy who rarely use the insurance, and no claims during policy period do not result in significant financial gains for them.



Germany



Advantages:

- Cheaper insurance for policy holders, improved behaviour with cash-back incentive—benefits insurer as well
- Friends group reduces fraudulent practices
- Small claims processing—cost saved, customer loyalty improved, claims frequency below market average

An independent broker in the German insurance market, Friendsurance has ties with 60 insurance companies.

Available on insurance for:

- Home contents
- Private liability
- Legal expenses

Success Rate

- **80+%** receive some cash-back
- **33%** of paid premium received as cash-back in property line

Health: Pool of Type I Diabetes patients?

Source: Friendsurance, Frost & Sullivan

Cyber Security

Health records are valuable; provider cyber attacks are gaining critical mass and even insurers are at risk. The case of Anthem

- Anthem, the US health insurance firm, was at the receiving end of a major cyber attack in early 2015.
- Hackers accessed customer and employee details of roughly 80 million people in Anthem's database.
- The hackers were alleged to be Chinese, and were reported to be attempting to gauge the workings of US medical care.
- This was the first case where the attack was reported by internal means instead of a third-party firm.

What Happened

80 Million Customer Details Exposed

Impact

- Anthem stated that the hack affected a fraction of the records.
- Hackers accessed names, social security numbers, and birth dates of people who have been enrolled in Anthem's insurance plans since 2004.
- The extent of such a threat is greater as the amount of personal information hacked included medical IDs, emails, and street addresses.

Learnings

Anthem was warned of potential malicious attacks two years before the attack, but failed to pay clear attention; Anthem's failure is a clear learning for the industry.

- There should be powerful cyber firewalls and defences. The vulnerabilities to cyber attacks should not be underestimated.
- Companies should implement a thorough configuration compliance auditing program to increase the security of their configured servers.

Actions Taken

- Anthem officials contacted the FBI and took the necessary steps to contain the security vulnerability.
- A full-fledged team was created to get to the bottom of the problem.
- Anthem is facing legal implications, including multiple class-action lawsuits and may be fined heavily, potentially in millions of dollars.

Blue Cross Blue Shield affiliates, CareFirst, Excellus and Premera have also suffered large data breaches since Anthem's attack.

Source: Frost & Sullivan

Gamification

Motivate, engage, empower, and achieve through Gaming

Gamification is the use of game thinking and mechanics in real-life contexts to solve real-life problems. It is applied to non-game applications to encourage people for better engagement and adoption of processes. Gamification helps users to focus on completion of certain tasks, which are usually considered boring (filling out survey forms, shopping, and reading advertisements and so on).

Increasing interaction with employees, customers and other stakeholders helps businesses to drive more sales, improving return on investment (ROI) and providing higher customer satisfaction.

How Is Gamification Generally Used?



Marketing
Sales
Customer engagement

Training
Crowdsourcing
Process efficiencies



AXA launched Pass it On! an online game of chance that distills the concept and value of life insurance into a series of choices. Pass it On! players create avatars and guide their virtual families to a better financial future by saving game currency, managing expenses, and making important decisions about life insurance. Players also have the chance to win \$25,000 or \$15,000 cash prizes.

Source: Frost & Sullivan

Digital Imagery

Imagery from satellites and drones will allow real-time image visualisations and the development of insurance applications for agriculture and industry

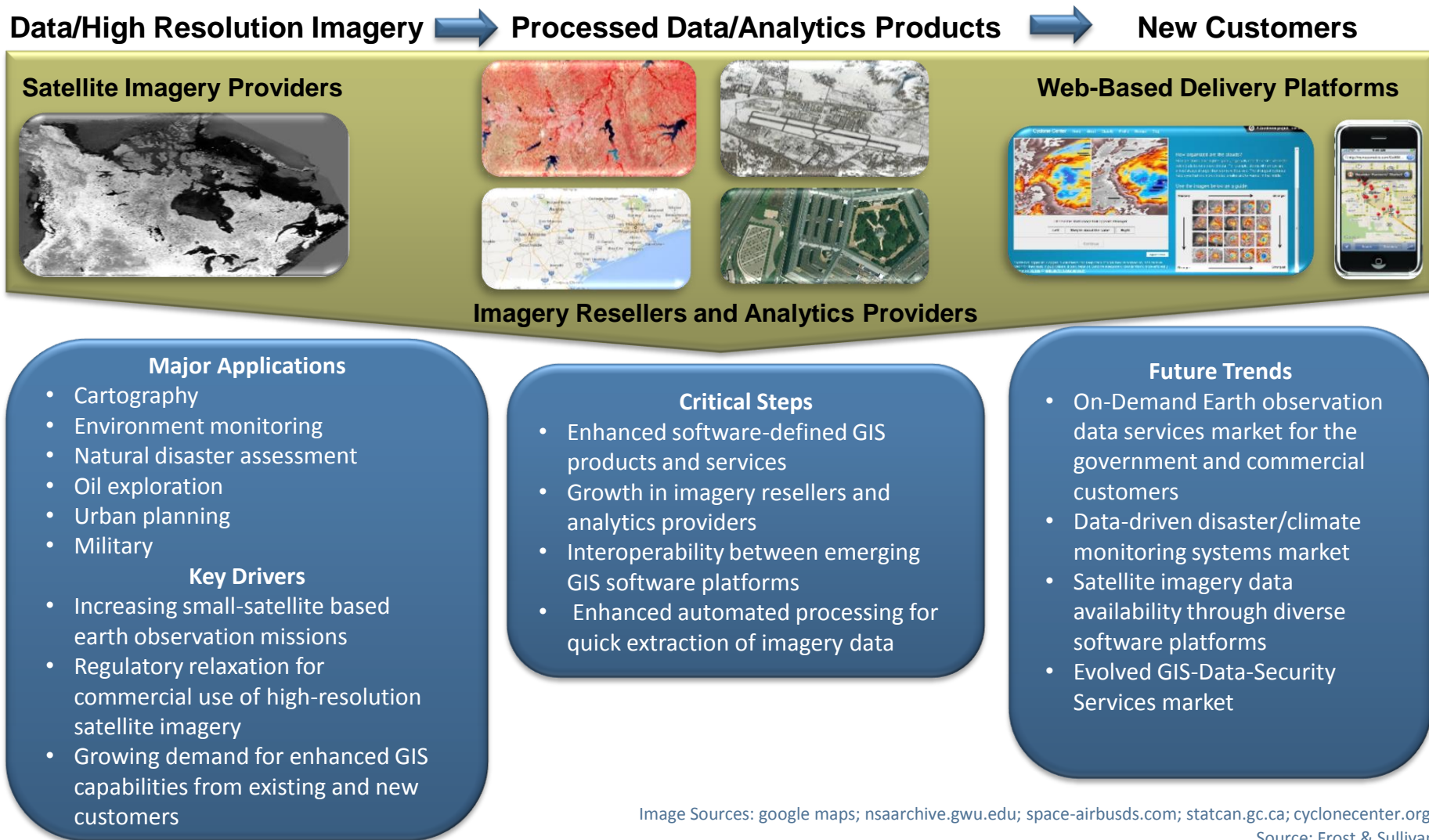


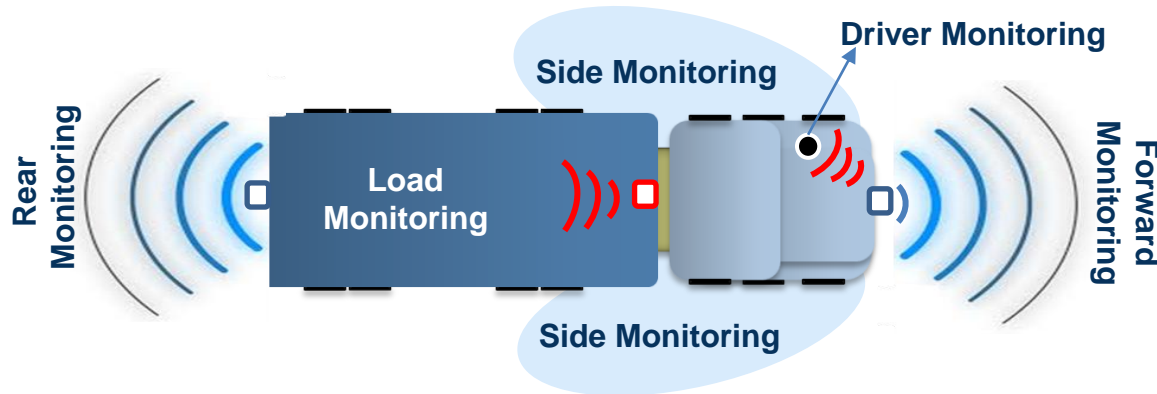
Image Sources: google maps; nsaarchive.gwu.edu; space-airbusds.com; statcan.gc.ca; cyclonecenter.org.

Source: Frost & Sullivan

Other Innovations that will impact on the future of Insurance

Examples

Video Safety Solutions for commercial vehicles



Video Safety is an innovative solution attributing to driver safety and behavior management.

It applies to the driver and to the forward / rear / side of the vehicle and to the load.

By 2021 there will be about 130M equipped vehicles globally.

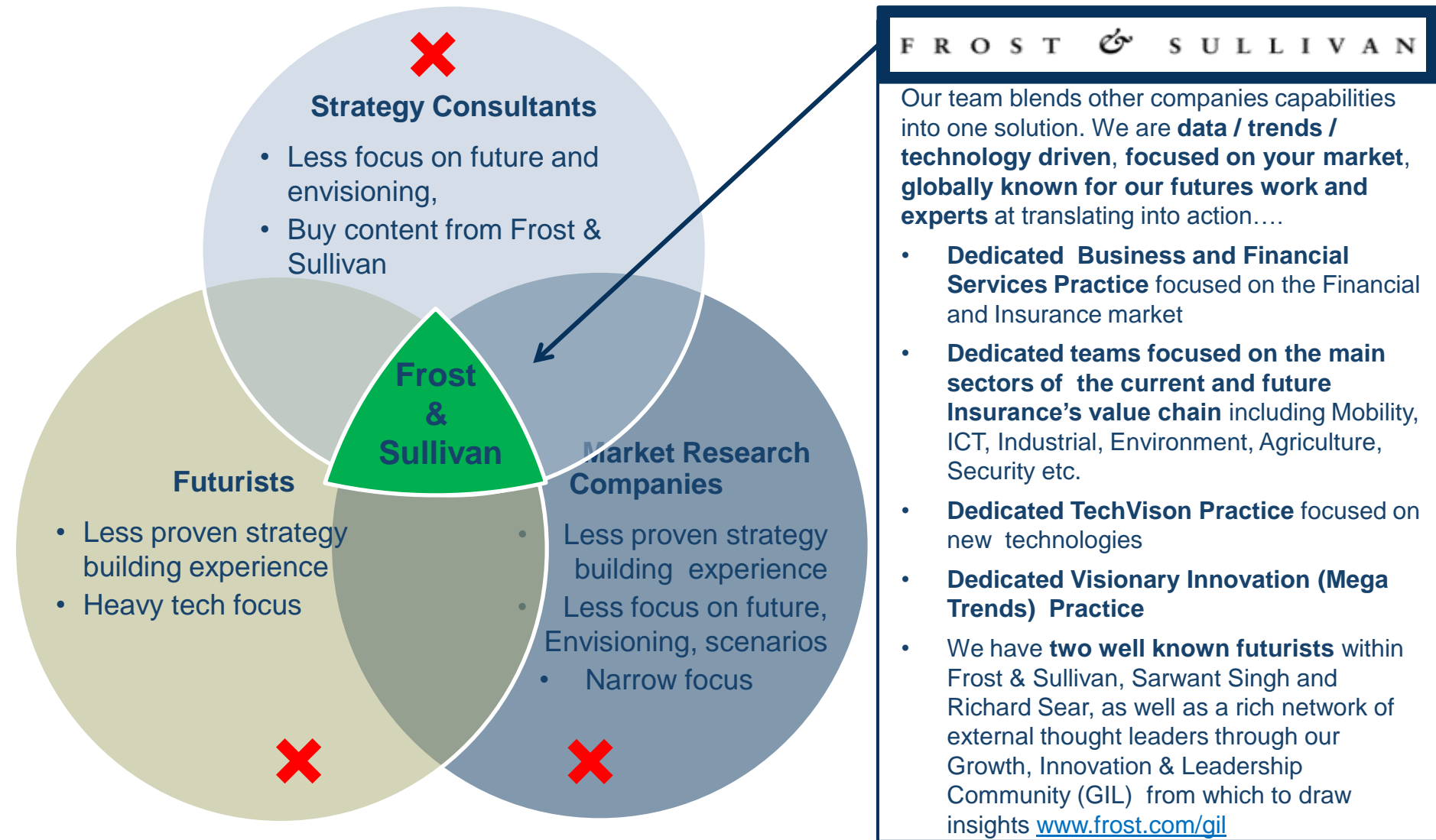
Blockchain technology

Blockchains are a suite of tools that have four fundamental characteristics: they are distributed, cryptographically secure, tamper-proof, and often open-source. They are known as the technology that supports cryptocurrencies such as Bitcoin, but they can support the distribution or transaction of any data securely and without the need for a central authority.

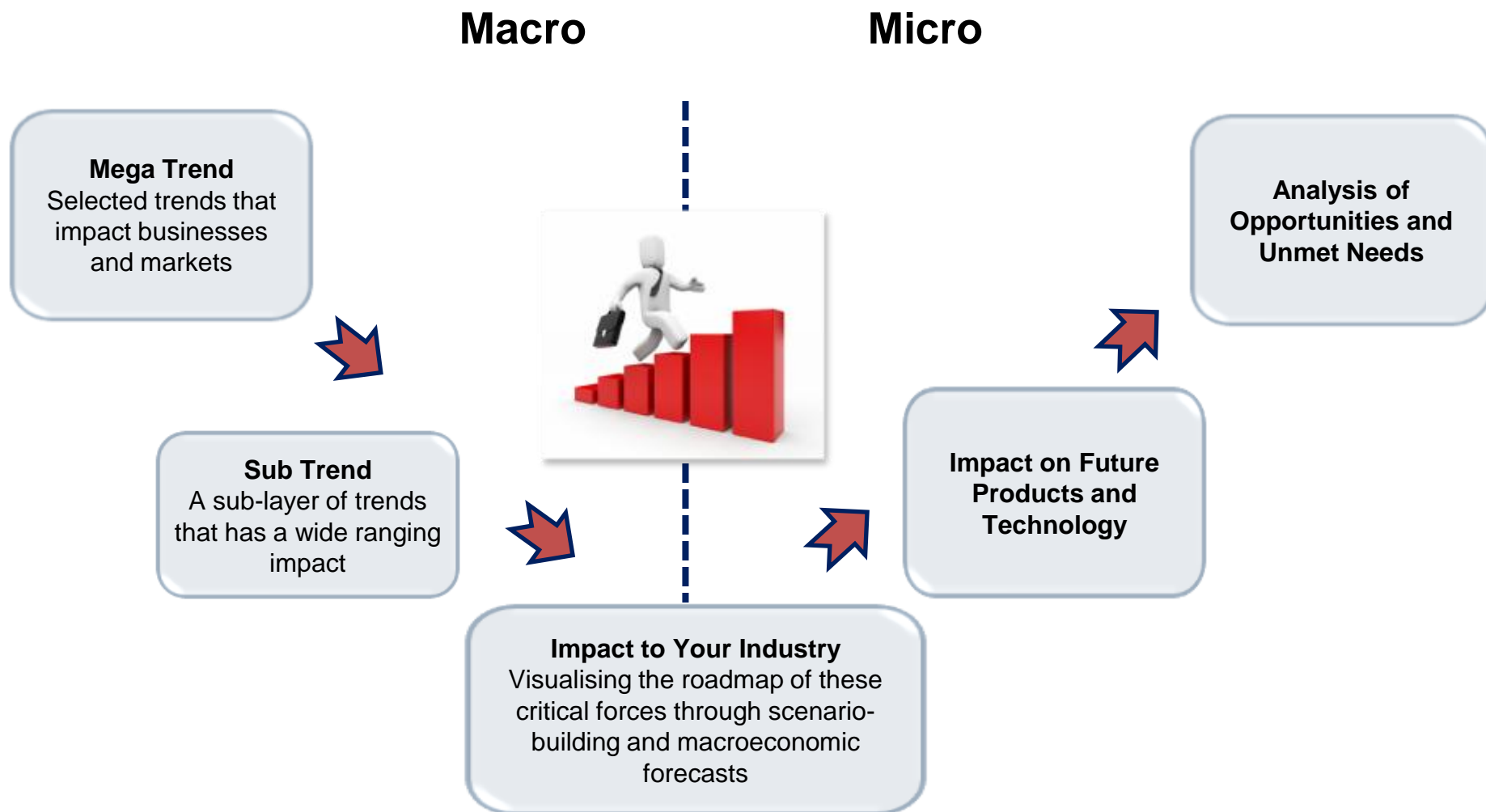
Blockchains could provide customers and insurers tools to manage transparently claims. Contracts and claims could be recorded in a blockchain and could be validated by the network, assuring that only valid claims are paid.



Why Frost and Sullivan is the Right Partner for Insurance and the related partner companies



Our Unique Macro to Micro Approach



Sample of Recent Research Titles

Research title
Transformations in Global Private Health Insurance Models
Impact of Automated Vehicles on Motor Insurance Market
Financial Assessment of the European Insurance Industry
Executive Overview of the Usage-based Insurance Market in Europe and North America
Mergers and Acquisitions in the Global Life and Health Insurance Industry
Mergers and Acquisitions Trends in the Global Property and Casualty Insurance Industry
Health Insurance Information Technology: US Overview and Outlook, 2014-2020
Customer Experience Management Study—Australia's Private Health Insurance Sector
Customer Experience Management Study—Malaysia's Life Insurance Market,
Do Autonomous Vehicles Spell Doom for Auto Insurance?
The Role of Telematics in the European Insurance Market
Mobile Handset Insurance: What's the Value for the Carrier?
Impact of Gamification in Key Industries
Strategic Update of the European Usage-based Insurance Market for Passenger & Commercial Vehicles
FinTech in Europe, Advanced Technologies to Become Mainstream in the Next 5 Years

About Frost and Sullivan

The Frost & Sullivan Story



Pioneered Emerging Market & Technology Research

- Global Footprint Begins
- Country Economic Research
- Market & Technical Research
- Best Practice Career Training



Growth Partnership

- Growth Partnership Services
- GIL Global Events
- Growth Consulting
- GIL University



Visionary Innovation

- Mega Trends Research: Macro to Micro
- TechVision 2020
- GIL Global Community

We Combine Market and Industry Expertise with Business Analytics and Strategic Foresight

Frost & Sullivan is an international consultancy with over 42 offices around the globe. Analysts and consultants apply specialist market knowledge and strategy expertise to developing strategic analyses and viable plans.

Beside bespoke consultancy, Frost & Sullivan publishes analyses and insights for numerous industrial and technology markets. Dedicated teams evaluate megatrends and analyse their implications for industries and businesses.

Frost & Sullivan uses tried and proven methodologies and interactive tools for research and consulting projects; e.g. primary research through in-depth telephone and face-to-face interviews (open and standardised); strategy building and evaluation tools; forecasting; financial modelling and forecasting; benchmarking; surveys and statistical evaluation; scenario techniques; facilitated workshops.



What Makes Frost & Sullivan Unique?



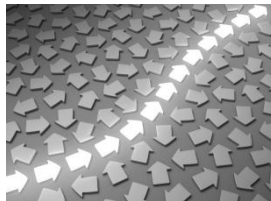
Focused on Growth

All services aligned on growth to help clients **develop and implement innovative growth strategies.**



Industry Coverage

Continuous monitoring of 10 industries globally and their convergence, giving clients **first mover advantage and deep insight in emerging cross-sector opportunities.**



Global Footprint

More than 42 global offices ensure that clients **gain a global perspective to mitigate risk and sustain long term growth.**



360° Perspective

Bottom up research methodology based on 80% of research generated through primary interviews providing **a full 360° view of the industry.**



Proven Methodology

Case-based profiles that help executives use **best-in-class approaches** to address strategic, organisational and operational issues.



Macro-to-micro Method

Our mega trends team helps clients understand the sub-trends and, through a well proven methodology of macro-to-micro, supports **evaluating and identifying opportunities.**

Our Global Footprint and Local Expertise

Scanning the Globe for Opportunities and Innovation



Our Industry Coverage



Aerospace & Defense



**Measurement &
Instrumentation**



**Consumer
Technologies**



**Information &
Communication Technologies**



**Automotive
Transportation & Logistics**



**Energy & Power
Systems**



**Environment & Building
Technologies**



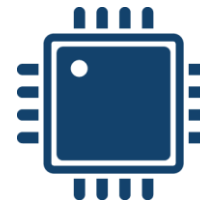
Healthcare



Minerals & Mining



**Chemicals, Materials
& Food**



**Electronics &
Security**



**Industrial Automation
& Process Control**

Consulting Values

Our Growth Consultants' performance is governed by these core values

- **Client First**—We will always put our client's interests ahead of our own in every consulting project.
- **Quality**—We will apply the most robust, lead edge techniques in developing accurate, reliable metrics to support client needs.
- **Strategic Value**—We will always strive to enhance the strategic value and leverage of our work—our goal is to delight our clients, not merely satisfy them.
- **Innovation**—We will strive to apply out of the box thinking to develop solutions creating competitive advantage for our clients.
- **Confidentiality**—We will maintain complete confidentiality of client objectives, opportunities and strategies unless and until they become public knowledge.
- **Professionalism**—We will be completely disciplined, organized and ethical in the way we conduct ourselves during and after every engagement.
- **Integrity**—We will always be truthful and unambiguous in our client recommendations—we will call it as we see it.

Your Contact For Additional Information

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