Principal risks and uncertainties

We maintain a register of principal risks and uncertainties covering the strategic, financial, operational and compliance risks faced by the Group.

PRINCIPAL RISKS

1. COVID-19 (New)
2. TECHNOLOGY
3. ECONOMY AND GEOPOLITICS
4. GROUP PORTFOLIO
5. LIQUIDITY (New)
6. PRODUCT QUALITY
7. CUSTOMERS
8. PEOPLE
9. CYBER SECURITY
10. INTEGRATED SUPPLY CHAIN
11. MARKETS
12. ETHICAL BREACH
13. CONTRACTUAL OBLIGATIONS

We review each risk and rate a number of factors: gross impact, applying the hypothetical assumption there are no mitigating controls in place; residual impact and likelihood, taking into account existing mitigating controls; target impact; the reputational impact of a risk; and its velocity, which reflects the expected time we would have to react should a risk materialise. These, in turn, drive mitigation priorities. A trend metric shows the net position of the risk year-on-year.

In FY2020 we formalised consideration of the relationship between risks to help understand the potential for one risk to have an impact on another. This is presented against each risk in the form of ‘risk relationship’ charts indicating the strength of linkage between each principal risk and others on the list. This has been used as an input to the viability statement assessment and will be used more widely in future risk scenario planning and mitigation work.

We updated our register of principal risks and uncertainties following review by the Executive Committee and approval by the Board. As stated earlier, COVID-19 was added as a new principal risk, disease pandemic having previously been reported as part of the integrated supply chain risk. Additionally, in the light of the impact of COVID-19, liquidity has been promoted to the list in recognition of the large gross impact this might have. Mitigating actions result in this risk being considered low likelihood.

Due to the long-term nature of climate change this is not considered a principal risk. However, the Board recognises the importance of considering climate change in its decision-making, notably on longer-term strategic topics. See page 43 for more details.

While we continue to monitor and manage a wider range of risks, the risk map above and the tables that follow summarise those risks considered to have the greatest potential impact if they were to materialise.
COVID-19 is impacting our colleagues, customers, suppliers and operations to varying degrees across different territories and different parts of our business. This includes, but is not limited to: risks to the wellbeing of our people, their families and communities; our customers, who have in many cases revised their demand forecasts; our suppliers, whose businesses have had challenges maintaining continuity of supply; and our own operations which have had to deal with all the combined challenges of the pandemic.

How this could impact our strategy or business model
- Exceptional external circumstances arising, including significant adverse consequences arising from the evolving pandemic and associated economic dislocation may impact the separation of Smith Medical

Examples of how we manage this risk
- Smiths Group Crisis Core team was mobilised during the first six months of the crisis overseeing various workstream sub-groups and reporting to the Executive Committee
- Workstreams comprise: Divisions, HSE, HR, Communications, Operations and Supply Chain (OSNC), Legal, Finance, Systems/Infrastructure and Government Relations
- Divisional Crisis Teams and Site Emergency Response Teams operationalised

2. TECHNOLOGY

Differentiated new products and services are critical to our success. We may be unable to maintain technological differentiation or to meet customers’ needs and may face disruptive innovation by a competitor.

How this could impact our strategy or business model
- Material adverse effect on margin and profitable growth
- Erosion of our reputation as a leader in our markets and of our ability to attract and retain talent

Examples of how we manage this risk
- Proactive repositioning of the portfolio around the most attractive markets where we can sustainably hold a top three position based on technology leadership

Examples of how we know the controls are working effectively
- Vitality data is reviewed by the Smiths Innovation Strategy Board (SISB) and is part of the SES dashboard
- Robust IP protection via patents and other protections, and litigation where appropriate

Examples of how we know the controls are working effectively
- OSNC continues to provide real-time updates on status of operations, supply chain and logistics through dashboards
- Vitality Index as a KPI
COVID-19 has triggered a highly significant global economic downturn. In many sectors, demand has reduced. There is a likelihood that the impact on demand will be prolonged, especially in commercial aerospace. The collapse in both the oil price and oil consumption may trigger a downturn in demand (particularly OE) for John Crane. A global recession may also lead to an increase in bankruptcies of both customers and suppliers. Conversely, the crisis is opening up new opportunities, most obviously in Smiths Medical and Smiths Detection; and inorganic opportunities are likely to arise more frequently and at better values. Geopolitical tensions continue to rise, most notably between China and the US, but also affecting other Governments, which pose threats to the free movement of goods, capital and people.

How this could impact our strategy or business model
- Significant and prolonged reduction in global demand for our products
- Geopolitical tensions, most notably relating to China, the US, India, the Middle East, South Korea and North Korea, adversely impact trade
- Adverse impact on business performance due to the imposition of tariffs
- The consequences of Brexit are uncertain. Potential effects, applicable to many businesses, include economic and operational uncertainty, volatility of currency exchange, regulatory changes and the imposition of tariffs on trade between the UK and the Eurozone
- Governments continue to look for ways to improve tax revenues to ease fiscal budget pressures

Examples of how we manage this risk
- Identification and application of learnings from past downturns through the cycle
- Diversified portfolio of businesses which mitigates exposure to any one country or sector
- Geographic spread which mitigates the impact of trade barriers between regions
- Divisions monitor order flows and other leading indicators so that they may respond quickly to deteriorating trading conditions and tariffs/barriers to free trade
- Representation of our interests by the Corporate Affairs team
- Network of trade compliance officers across the Group who monitor upcoming changes in regulation and oversee import and export activities
- Monitoring of the ongoing negotiations between the UK and the EU in order to assess the potential impact of Brexit
- Sustainable tax strategy to optimise the Group’s position

Examples of how we know the controls are working effectively
- Impact of US tariffs to date has been absorbed
- Order tracking reported and monitored
- Business indicators reported weekly
- Brexit coordination group working effectively, Group has relatively little exposure to Brexit

Our strategy is predicated primarily on organic growth. However, acquisitions/divestments can also play a role in building and/or strengthening competitive positions.

Acquisitions bring risk as well as opportunity. We may invest substantial funds and resources in acquisitions which fail to deliver on expectations – due to incorrect appraisal of the target and/or poor execution. The opposite risk is that (perhaps through an excess of caution) we miss out on opportunities to build market-leading positions and growth.

Divestments also carry risk. We may divest an asset at the wrong time, or may not realise appropriate value for the asset. Separation may be complex and, if poorly executed, may impact the wider business.

How this could impact our strategy or business model
- Poor acquisitions/divestments, or poorly managed integrations/separations, lead directly to financial damage and indirectly to loss of shareholder confidence
- Newly-acquired products and solutions deliver less value, fewer synergies, or require more investment than anticipated
- Fall in our return on capital employed measure
- Financial performance suffers from goodwill or other acquisition-related impairment charges or inheritance of material unknown liabilities

Examples of how we manage this risk
- Investment in greater internal capability for the evaluation and execution of transactions
- Regular reviews of the acquisition pipeline and a stage-gated M&A process
- Detailed due diligence and integration work in accordance with our acquisitions and disposals policy
- Detailed separation planning, in accordance with our acquisitions and disposals policy
- Governance ensures multi-disciplinary sign off
- Larger transactions approved by the full Board
- Post-transaction reviews with lessons learned incorporated into future projects
- Use of external advisers

Examples of how we know the controls are working effectively
- Technology acquisitions have established a strong track record
- Strong internal team
- Proper governance and oversight
- Learnings from previous acquisitions considered and applied
- Ongoing evaluation measured against original business case
Principal risks and uncertainties continued

5. LIQUIDITY (New)

**RISK OWNER**
John Shipsey

**TREND**
New

**INCLUDED IN VIABILITY ASSESSMENT:**
✓

**RELATIONSHIP TO OTHER PRINCIPAL RISKS**
- Strong and diversified lending group – strong loan documentation with only one interest cover covenant on the revolving credit facility
- Ability to flex cost base in the face of reduced revenues with 60% of Cost Of Goods Sold being variable

COVID-19 has triggered a highly significant global economic downturn. In many sectors, demand has reduced, in some cases close to zero. We, along with our customers and suppliers, have also faced disruption to operations and higher costs. If disruption were to be deep and sustained over many months, our financial position could be eroded by lower revenues, higher costs and cash write-offs (e.g. non-payment by customers). We might not be able to rely on access to committed facilities, either through breach of our financial covenant or because lenders were unable to meet their obligations.

How this could impact our strategy or business model
- Inability to fund our operations
- Inability to invest in medium to longer-term drivers of growth
- Reduced competitiveness of our businesses

Examples of how we manage this risk
- Diversified portfolio of businesses that mitigates exposure to any one country or sector
- Strongly cash generative businesses
- Capital expenditure and working capital are embedded in performance management and reward
- Conservative financing policy with a self-imposed limit of 2x net debt to EBITDA and significant liquidity headroom

Examples of how we know the controls are working effectively
- Resilient performance of the business
- Strong free cash-flow
- Liquidity headroom of £1bn
- Average debt maturity of 4.2 years
- Net EBITDA of 1.9x
- Cash of £386m and undrawn $800m RCF

6. PRODUCT QUALITY

**RISK OWNER**
Divisional Presidents

**TREND**
Decrease

**INCLUDED IN VIABILITY ASSESSMENT:**
✓

**RELATIONSHIP TO OTHER PRINCIPAL RISKS**
- Strong
- Moderate

In the ordinary course of business we are potentially subject to product liability claims and lawsuits, including potential class actions. The mission-critical nature of many of our solutions makes the potential consequences of failure more serious than may otherwise be the case.

How this could impact our strategy or business model
- Damage to our reputation amongst customers and reduction in market acceptance of, and demand for, our products from an adverse event involving one of our products
- Recall of products due to manufacturing flaws, component failures, damage to persons/property, and/or design defects
- Exposure to losses in the event of a cyber security breach relating to our products
- Customers’ losses but also losses arising from a potentially large class of third parties

Examples of how we manage this risk
- Divisional quality risk assessments that address product failures, product compliance, regulatory compliance, product performance, product safety and market authorisation risks
- Quality assurance processes embedded in manufacturing locations for critical equipment, supporting compliance with industry regulations
- Quality development and quality integration built into NPI processes
- Risk analysis and mitigation processes relating to product cyber resilience embedded in the product lifecycle process. Proactive steps taken to ensure product cyber related risks are continually monitored and managed
- Insurance cover for product liability
- Material litigation managed under the oversight of the Group General Counsel

Examples of how we know the controls are working effectively
- Quality measures (e.g. DPPM, COPQ) are measured and action plans put in place to drive their improvement – these are regularly reported
- Group and divisional governance frameworks (including Delegation of Authority) ensure a close working relationship between legal and commercial teams (includes quality) to manage risks
- Fewer quality issues at launch of new products
7. CUSTOMERS

RISK OWNER
Julian Fagge

TREND
No change

INCLUDED IN VIABILITY ASSESSMENT:
N/A

RELATIONSHIP TO OTHER PRINCIPAL RISKS

- New product innovation feedback through market research and direct feedback from existing and potential customers
- Developing business models is a core component of the Group-wide training agenda

Examples of how we know the controls are working effectively
- Megatrend workshops and disruption risks reviewed annually
- Customer input gathered on a frequent basis
- Pilot programmes to test products, business models and partnerships
- Strategic review process; divisional deep dives

Our markets are evolving at a fast pace, creating potential for customers to change their business models as they look to deliver products and services at higher quality, with better service and at lower cost.

Failure of the Group to keep pace with customer changes/requirements (innovation, go-to-market strategies) could have a materially adverse impact on Group performance.

How this could impact our strategy or business model
- Loss of market share and adverse impact on Group results
- Material adverse effect on profitable growth
- Erosion of our reputation as a leader in our markets

Examples of how we manage this risk
- As part of the Group innovation framework and our approach to potential technology disruption, we include customer disruption as well as competitor and product disruption

Examples of how we know the controls are working effectively
- Megatrend workshops and disruption risks reviewed annually
- Customer input gathered on a frequent basis
- Pilot programmes to test products, business models and partnerships
- Strategic review process; divisional deep dives

8. PEOPLE

RISK OWNER
Sheena Mackay

TREND
No change

INCLUDED IN VIABILITY ASSESSMENT:
N/A

RELATIONSHIP TO OTHER PRINCIPAL RISKS

- A clearly defined people integration plan for acquisitions
- People Plan oversight by the Board
- Diversity and Inclusion plan and initiatives

Examples of how we know the controls are working effectively
- Participation rates in the Smiths learning and development programmes measured. Capability and performance of alumni are tracked
- Benchmarking ratio of hires into senior roles from internal and external sources
- Formal and informal measures of culture, for example regular engagement surveys with follow-up action planning
- Measurement of the effectiveness of the Executive education programme through post-completion evaluation tests
- Post-acquisition and lessons learned reviews

People are our only truly sustainable source of competitive advantage and competition for key skills is intense, especially around science, technology, engineering and mathematics (STEM) disciplines. We may not be successful in attracting, retaining, developing, engaging and inspiring the right people with the right skills to achieve our growth ambitions.

How this could impact our strategy or business model
- Inability to attract key talent leading to a loss of competitive advantage
- Difficulty in retaining personnel, at all levels of the organisation, leading to a loss of competitive advantage
- In acquisitions, losing key personnel from the newly-acquired business which may significantly impact performance and value

Examples of how we manage this risk
- Investment to build a learning organisation with a focus on culture, reward and recognition
- Implementation of the right HR infrastructure
- Delivery of a range of learning and development opportunities at all levels of the organisation
- Talent and succession plan reviews
- Remuneration packages evaluated regularly against market trends
- Chief Executive assessment of the leadership team
- Annual performance management reviews for the majority of employees using best-practice processes such as 360-degree feedback surveys
- Formal career counselling for senior people in the business

Examples of how we know the controls are working effectively
- Participation rates in the Smiths learning and development programmes measured. Capability and performance of alumni are tracked
- Benchmarking ratio of hires into senior roles from internal and external sources
- Formal and informal measures of culture, for example regular engagement surveys with follow-up action planning
- Measurement of the effectiveness of the Executive education programme through post-completion evaluation tests
- Post-acquisition and lessons learned reviews
## 9. CYBER SECURITY

<table>
<thead>
<tr>
<th>Risk Owner</th>
<th>TREND</th>
<th>Relationship to Other Principal Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Shipsey</td>
<td>No change</td>
<td>Strong, Moderate</td>
</tr>
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</table>

**Included in Viability Assessment:**
- ✔️

**Examples of how we manage this risk:**
- Board oversight of the approach to mitigating cyber risk
- Proactive focus on information and cyber security risks supported by a strong governance framework
- Group-wide assessment of critical information assets and protection to enhance security
- Information Security Awareness programme
- Security monitoring to provide early detection of hostile activity on Smiths networks and an incident management process
- Partnership and monitoring arrangements in place with critical third parties, including communications service providers
- Cyber risk analysis and mitigation processes embedded in the product lifecycle process to increase resilience

**Examples of how we know the controls are working effectively:**
- Formal reviews with the Executive Committee and the Board
- Vulnerability scanning/event reporting
- External reviews of vulnerability controls
- Mandatory staff training
- Compliance with recognised standards
- Cyber leads at divisions

**Principal risks and uncertainties continued**

### 9. CYBER SECURITY

Cyber attacks seeking to compromise the confidentiality, integrity and availability of IT systems and the data held on them are a continuing risk. We operate in markets and product areas which are known to be of interest to criminals.

**How this could impact our strategy or business model:**
- Compromised confidentiality, integrity and availability of our assets resulting from a cyber attack, impacting our ability to deliver to customers and, ultimately, financial performance and reputation
- Exposure to significant losses in the event of a cyber security breach relating to our security or medical products. These include not only customer losses, but also those of a potentially large class of third parties

**How this could impact our strategy or business model**
- Compromised confidentiality, integrity and availability of our assets resulting from a cyber attack, impacting our ability to deliver to customers and, ultimately, financial performance and reputation
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- Compliance with recognised standards
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### 10. INTEGRATED SUPPLY CHAIN

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</tr>
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<tbody>
<tr>
<td>Sheena Mackay</td>
<td>No change</td>
<td>Strong, Moderate</td>
</tr>
</tbody>
</table>

**Included in Viability Assessment:**
- ✔️

**How this could impact our strategy or business model:**
- Inability to deliver products/solutions to customers, impacting financial performance and reputation

**How this could impact our strategy or business model:**
- Inability to deliver products/solutions to customers, impacting financial performance and reputation

**Examples of how we manage this risk:**
- Supply excellence pillar of our SES operating model delivers increased focus on efficient, resilient and cost-effective supply
- Business continuity and disaster recovery plans in place and tested for critical locations
- Regular evaluation of key sites for a range of risk factors using externally benchmarked assessments – risk reduction measures for critical products and dual manufacturing capabilities

**Examples of how we know the controls are working effectively:**
- Business continuity planning (BCP) testing and results
- Mitigation plans reviewed and reported by divisions
- Externally provided business interruption risk surveys of operational sites
- Insurance requirements driven by the risk appetite of the Group and divisions is validated at least annually

Timely, efficient supply of raw materials and purchased components is critical to our ability to deliver to our customers. Manufacturing and supply chain continuity are exposed to external events that could have significant adverse consequences, including natural catastrophes, civil or political unrest, changes in regulatory conditions, terrorist attacks and disease pandemics – this applies to our own manufacturing sites and those of our key component suppliers.

Disease pandemics were highlighted as a key component of this risk in FY2019 and in prior reports. Following the COVID-19 pandemic, a new principal risk was added capturing not only the supply chain impacts of the risk, but other consequences and our responses. See risk 1.
11. MARKETS

**RISK OWNER**
Roland Carter

**TREND**
No change

**INCLUDED IN VIABILITY ASSESSMENT:**
N/A

**RELATIONSHIP TO OTHER PRINCIPAL RISKS**

- Strong
- Moderate

A significant proportion of our revenue comes from the US and European markets, with a notable proportion coming from governments. In addition to geographical markets, there is a risk we do not focus on attractive sectors where we have, or could have, a sustainable position.

**How this could impact our strategy or business model**
- Failure to develop other markets and geographies impacts strategic progress and financial performance
- Significant disruption to government budgets results in fewer contracts being awarded to Smiths, impacting financial performance

**Examples of how we manage this risk**
- A diversified portfolio of businesses mitigates exposure to any one country, sector or customer
- Growth strategy which places emphasis on expanding operations in higher-growth markets and regions which are currently underserved, including Asia
- Strategic process to capture continuing opportunities in current and adjacent markets
- Government relations function which collaborates with colleagues across the Group to advise on developments
- More resilient services and consumable components built into some of our government-related business

**Examples of how we know the controls are working effectively**
- Strong and long-term customer relationships provide assurance
- Managing Director councils established in India and China
- Carefully crafted JV and Partnership arrangements in China

12. ETHICAL BREACH

**RISK OWNER**
Mel Rowlands

**TREND**
No change

**INCLUDED IN VIABILITY ASSESSMENT:**
✓

**RELATIONSHIP TO OTHER PRINCIPAL RISKS**

- Strong
- Moderate

We have more than 22,000 employees in more than 50 countries. Individuals may not all behave in accordance with the Group’s values and ethical standards. We operate in highly regulated markets requiring strict adherence to laws with risk areas including:
- Bribery and corruption;
- Anti-trust matters;
- International trade laws and sanctions;
- Human rights, modern slavery and international labour standards;
- General Data Protection Regulation (GDPR); and
- Government contracting regulations.

**How this could impact our strategy or business model**
- Failure to comply with export regulations leads to significant fines and a loss of export privileges
- Failure to meet strict conditions within government contracts, particularly in the US, could have serious financial and reputational consequences
- Increased risk of illegal anti-competitive activity such as collusion with competitors
- US fines and penalties imposed for price fixing, bid rigging and other cartel-type activities can exceed $100m per violation
- Ethics or compliance breach causes harm to our reputation, financial performance, customer relationships and our ability to attract and retain talent

**Examples of how we manage this risk**
- Group-wide ethics framework which includes our values, the Code of Business Ethics and the Supplier Code of Conduct
- Policies and procedures to mitigate distributor and agent related risks including due diligence, contractual controls and internal approvals
- Anti-bribery and corruption training for all employees supported by the ‘Speak Out’ line encouraging the reporting of ethics violations (includes ability to report anonymously and a non-retaliation policy)
- Reporting and investigation mechanisms
- Anti-trust training programmes and guidance
- Network of trade compliance officers across the Group who monitor upcoming changes in regulation and oversee import and export activities
- Monitoring and acting on upcoming legislative changes
- Modern Slavery and Transparency Statement and procedures to reduce the risk of modern slavery within the Group and our supply chain
- Multi-functional programme for GDPR compliance

**Examples of how we know the controls are working effectively**
- Multiple sources to assess culture including My Say results, ‘Speak Out’ reports, internal audit findings, exit interviews and ethics questions in performance reviews
- Monitoring and reporting on compliance with ethics and compliance policies
- Tracking of online ethics training and compliance modules
- Reporting non-compliance cases to business, Executive and Audit & Risk Committees
We may fail to deliver the products and services, or fail in our contractual execution due to delays or breaches by our suppliers or other counterparties.

How this could impact our strategy or business model
- Production delays, unexpected increases in costs of materials, freight, quality and warranty issues resulting from differences between estimated and actual costs in our medium and long-term contracts
- Breach of contract resulting in significant expenses due to disputes and claims, loss of customers, damage to our reputation with other customers/prospective customers, and loss of revenue and profit due to higher costs, liquidated damages or other penalties

Examples of how we manage this risk
- Contracts, particularly those with governments, may include terms that provide for unlimited liabilities, including for loss of profits, IP indemnities, perpetual warranties or allowing the counterparty to cancel, modify or terminate unilaterally and seek alternative sources of supply at our expense
- Programmes in place across the Group which harmonise the contract review process
- Cross-divisional US Government working group determines and shares best practice on government contracting
- Divisonal legal teams embedded in the business, working cross-functionally throughout the contract lifecycle
- Insurance programme tailored to reflect the risk appetite of the Group
- Uniform diligence and contracting process in place for agents and distributors