VALUE CREATION

Our business model

To deliver on our strategy and fulfil our strategic aims, we employ inputs into the business activities to generate required outputs and outcomes, and to create value over time.

Our business activities are guided by our four strategic goals. To read more about these and their accompanying objectives, **please click here**.

Our business activities

In line with our mission, we create value by acting as the principal advocate for the South African mining industry on behalf of our members, our primary stakeholder.



Identify

- Identify and understand main issues of concern to members and other stakeholders
- Examine policy issues and matters of mutual concern to industry



Collaborate

- Engage and partner with stakeholders to address concerns identified and devise strategies to address them effectively
- Promote consultation and collaboration, and facilitate interaction among members



Guide

 Guide industry on leading practice in areas of safety, transformation, industrial relations, skills development, occupational health and environmental management



Communicate

 Advocate on behalf of the industry to ensure an enabling policy, legislative, regulatory and operating environment





Our core capabilities

The Mineral Council's work is structured into 15 core disciplines, reflecting the depth and range of the work we undertake for and with our members.

Communications:	Conveys information about the Minerals Council and the mining industry to stakeholders in an honest, transparent and balanced manner. It plays a critical role in ensuring external stakeholders are accurately and timeously informed about the South African mining industry.
Economics:	Provides input, advisory services and analysis on matters affecting the industry's economic appeal and performance, investment appeal and other economic impacts. It is also responsible for shaping industry responses to policy and legislation affecting the sector.
Employment Relations:	Provides advisory services to members on labour relations, including labour market issues, collective bargaining, immigration matters, employment equity and social security. Lobbies key stakeholders on labour legislation and policy on behalf of the industry.
Environment:	Provides advisory services, guidance and strategic leadership on environmental sustainability, climate change, mine closure and rehabilitation in a manner that enhances members' contributions to sustainable development. Advocates the adoption of the best environmental practices beyond regulatory requirements to reduce the environmental liabilities for mining. Undertakes lobbying and advocacy on key environmental legislation, programmes and policy on behalf of the industry.
Finance and Administration:	Provides the governance, risk management, human resources and administrative structures; and the financial, ICT and facilities management of the Minerals Council.
Health:	Provides advisory services, leadership and support in the field of occupational health, medicine and hygiene, along with advocacy and advice on TB, HIV and AIDS. Advocacy and lobbying on health legislation and policy on behalf of the industry. The Head of Health also champions the WiM Strategy.
Junior and Emerging Miners' Desk (JEMD):	Provides advice and support, and acts as a resource centre for junior mining and exploration member companies. It also ensures that the voice of junior and emerging miners is heard and understood by government.
Legal:	Provides legal advice in influencing legislative and other matters affecting members' interests and creating an environment for investment attraction. The focus is on constructive policies that are consistent with the national interest. This includes addressing challenges that have arisen because of the increase in illegal mining.
Modernisation:	Promotes RD&I as a critical enabler of modernisation and growth of mining. The discipline acts to facilitate a collaborative effort on innovation that will contribute to achieving Zero Harm, improving productivity and competitiveness, and creating sustainable and socially acceptable mining.
MOSH Learning Hub:	Encourages and enables mining companies to learn from the safety and health expertise and leading practices that exist in the global and local mining industries.
Public Affairs and Transformation:	Engages with social partners on matters of public policy, drives the internal and industry transformation agenda and engages on the public policy implications of the issues affecting the industry.
Safety and Sustainable Development:	Actively promotes mineworkers' safety and health in the workplace. It also provides high-level guidance on matters that affect the ESG impacts of the industry.
Skills Development:	Advocates the creation of an environment that enables the mining industry to develop skilled employees for advancement and deployment.
Social Performance:	Provides a collaborative and coordinated approach to community investment, local economic development and relationship building.
Strategy:	Consultative and collaborative process led by the CEO and guided by the Board to provide direction of development and exploration of opportunities and responses to risk.

Member companies collaborate through 11 leadership forums. These forums meet on a regular basis throughout the year to streamline and promote collaboration with due cognisance for the provisions of the Competition Act. The leadership forums also create opportunities for us to engage with our members and provide a medium through which they can engage with government and other key partners and stakeholders.

There are three types of forums, namely commodity forums, topical forums and special interest forums. In 2024 the KwaZulu-Natal Leadership Forum was established to consider issues that are common to members in the region.

Commodity forums

- Chrome Leadership Forum
- Coal Leadership Forum
- Diamond Leadership Forum
- Platinum Leadership Forum

Topical forums

- CEO Zero Harm Forum
- Hydrogen Leadership Forum
- Women in Mining Leadership Forum

Forums dedicated to specific interest groups

- Associations Leadership Forum (diamonds; industrial minerals)
- Junior, Exploration and Mining Leadership Forum (various commodities)
- KwaZulu-Natal Leadership Forum (titanium; coal)
- Northern Cape Mines Leadership Forum (iron ore; manganese)



Commodity forums

Chrome Leadership Forum

The Chrome Leadership Forum deals with strategic issues related to the chrome sector. Known for its high corrosion resistance and hardness, chrome is essential in the production of stainless steel, which accounts for 85% of its commercial use.

1

The Chrome Leadership Forum focused on key challenges affecting the sector in 2024, particularly logistics and infrastructure.

- Discussions centred on rail and port inefficiencies, the implications of the Freight Logistics Roadmap and the impact of Transnet's Network Statement on bulk commodity transport.
- The forum assessed how political instability in Mozambique is affecting chrome exports through the Port of Maputo.
- Eskom's performance and the rising incidence of chrome theft were key concerns, with discussions on mitigating risks and ensuring industry resilience.

The focus is on addressing systemic challenges and strengthening the chrome sector through strategic advocacy and collaboration.

3

Coal Leadership Forum

The Coal Leadership Forum is a platform for collaboration among coal CEOs and company executives. As the largest component of mining by production volumes, coal is a critical source of primary energy driving the South African economy.

2

The Coal Leadership Forum focused on key industry developments and policy engagements in 2024.

- The forum navigated regulatory changes following the national and provincial elections and contributed to the Presidential Imbizo in March, recognising the sector's impact.
- Members supported the Ministerial School Support Programme, extending contributions beyond standard SLP commitments.
- Through the Minerals Council, the forum actively participated in climate change and JET discussions via the Presidential Climate Commission and various provincial and district platforms. A key priority was securing a clear mandate on balancing compliance requirements with industry realities.

The forum remains committed to shaping the future of coal in South Africa through collaboration, policy advocacy and sustainable industry initiatives.

4

Platinum Leadership Forum

The Platinum Leadership Forum deals with strategic issues in the platinum sector including the development of a national platinum strategy. PGMs consist of six noble metals – platinum, palladium, rhodium, ruthenium, osmium and iridium. Platinum, palladium and rhodium are the primary metals of significant economic value. They are used largely in the automotive, industrial and jewellery sectors.

- **Stimulating demand:** The forum monitored collaborative initiatives aimed at increasing platinum demand across key sectors.
- **Industry positioning:** In response to the PGM sector crisis, the forum tasked the Minerals Council with developing a position statement on future demand.
- **Hydrogen economy interest:** The forum maintained a strong focus on the Hydrogen Leadership Forum's activities, given hydrogen's role in PGM applications.

Diamond Leadership Forum

The Diamond Leadership Forum deals with strategic issues related to the diamond sector. Diamonds have a crystalline structure that makes them harder than any other form in nature. They are not only very popular in jewellery and adornment, but also desirable in high-tech cutting, grinding and polishing tools.

- **Regulatory engagement:** The forum engaged with National Treasury on removing VAT on natural rough diamond sales and submitted a proposal to the DMPR for a Diamond Beneficiation Fund. Discussions will continue in 2025 to secure dtic support before engaging Treasury.
- G7 sanctions impact: A US State Department representative joined the forum to assess how G7 sanctions on Russian diamonds affect South Africa. The forum urged the DMPR and the Department of International Relations and Cooperation (DIRCO) to lead direct engagements with the G7.
- **Industry collaboration:** Engagements were held with the South African Diamond and Precious Metals Regulator (SADPMR) and the State Diamond Trader (SDT) on key industry matters, though leadership changes at SADPMR slowed progress on regulatory discussions.

Our leadership forums continued

Topical forums 5 6 **CEO Zero Harm Forum** Hydrogen Leadership Forum The Hydrogen Leadership Forum is an executive-led forum that accelerates The CEO Zero Harm Forum is based on the belief that the industry's CEOs must lead by example, drive health and safety initiatives in the industry, and address key members' understanding of hydrogen economy opportunities and facilitates challenges to accelerate the industry's journey to Zero Harm. engagements with key stakeholders. PGMs are used in the electrolysis of water to make hydrogen and are used in hydrogen fuel cells to generate electricity. The CEO Zero Harm Forum remained focused on health, safety and industry well-The Hydrogen Leadership Forum advanced industry knowledge and engagement on being through five key meetings in 2024: hydrogen economy opportunities in 2024. Health performance review (March): Assessed progress on occupational health Local demand: The forum focused on increasing hydrogen use in stationary and milestones, including OLD prevention, noise risk management, TB, HIV/AIDS mobility applications in mining. reduction and air quality standards. • Strategic execution: A Hydrogen Expert Team was established to drive work on • Safety performance review (April): Evaluated efforts to eliminate fatalities and policy, funding, research, ecosystem development, skills and guick-win projects. serious injuries, with emphasis on fall of ground, transport and machinery safety. and culture transformation initiatives. • Action-driven approach: Key 2024 action plans were implemented, including a dual-fuel (diesel and hydrogen) pilot project to boost hydrogen demand. • Diversity and inclusion in safety (June): Addressed WiM challenges, focusing on safety risks, personal protective equipment (PPE) standards and technology

- New safety milestones (August): Consolidated the industry's position and mandates for engagement with tripartite partners.
- Final milestones and strategy review (October): Reviewed Occupational Health and Safety Summit preparations, finalised industry safety targets and discussed post-incident medical care and wellness frameworks. Preparations for the CEO Heartfelt Conversation in November, aimed at assessing the Khumbul'ekhaya Strategy, were also completed.

Women in Mining Leadership Forum

adoption to enhance participation.

The WiM Leadership Forum aims to streamline the industry's strategies to advance women in the industry with a focus on improving the representation of women in the sector and encouraging leaders to make decisions that are in the best interests of women.

7

The WiM Leadership Forum advocated strategies to support and empower women in the industry in 2024.

- Thuthuzela Care Centres (TCCs): The National Partnership Annual Report was launched, highlighting efforts to support TCCs. Members also participated in the second Day of Learning to address challenges and strengthen collaboration.
- Gender-Based Violence and Femicide (GBVF) Response Fund: A R10 million pledge was secured to support TCCs, with Impala Platinum and Harmony Gold funding public awareness campaigns to improve visibility of these centres.
- Stakeholder engagement: A Limpopo roadshow brought together Minerals Council members, government officials, and civil society, leading to Northam Platinum pledging support and maintenance services for a local TCC. Senior government leaders from Limpopo and North West also engaged with the forum to reinforce public-private collaboration.

Special interest forums

8

Associations Leadership Forum

The Associations Leadership Forum provides an opportunity for the associations (ASPASA, Clay Brick Association, SADPO) and the Minerals Council to collaborate on matters impacting the sub-industries in which their members operate and to promote the interests and collectively amplify the voices of their members.

In 2024, the forum focused on key regulatory and operational challenges affecting smaller and artisanal miners.

- Legislative impact: The forum assessed how the MPRDA review affects smaller and artisanal miners, particularly compliance challenges.
- Mine health and safety costs: Concerns were raised about the impact of MHSC levies on small, surface mines.
- **Exploration and policy implementation:** Discussions covered the practical rollout of the country Exploration Plan and the Artisanal and Small-Scale Mining Policy, ensuring alignment with the MPRDA.
- **Safety regulations:** The forum engaged with the Chief Inspector of Mines to address challenges in implementing TMM Regulations in small-scale mining operations.

10

Junior, Exploration and Mining Leadership Forum

The Junior, Exploration and Mining Leadership Forum deals with strategic issues related to junior and emerging miners, including the development of a practical globally competitive exploration strategy to re-ignite a greenfields exploration boom in South Africa. South Africa's junior and emerging miners' sector has been growing significantly and requires a considered and differentiated regulatory regime.

9

This forum focused on key industry challenges and policy developments for junior and emerging miners in 2024.

- Exploration Challenges Report: A report on exploration challenges in South Africa was drafted, workshopped and discussed in a public webinar featuring industry experts from S&P Global, the DMPR, the IDC and the Geological Society of SA.
- **Policy engagement:** The forum contributed to the review of the Artisanal and Small-Scale Mining Policy for Implementation, and engaged the mine safety inspectorate on challenges experienced by junior miners in implementing certain measures.
- **Stakeholder engagement:** Key industry players organisations such as the IDC, Public Investment Corporation (PIC) and the DMPR.
- **Public advocacy:** The JEMD participated in media interviews and represented the views of junior miners in various conferences.

11

Northern Cape Mines Leadership Forum

The Northern Cape Mines Leadership Forum deals with strategic issues of common interest in the province. Miners in the Northern Cape primarily produce manganese, iron ore, diamonds and zinc.

Priorities in 2024 for the forum included a focus on critical industry and regional development challenges.

- Infrastructure and logistics: Advocated long-term solutions to the Vaal Gamagara Water Supply Scheme and continued engagement on railway efficiency for mineral exports. Urgent action was also called for on the R380 road project to improve safety.
- **Government engagement:** Maintained active discussions with government at all levels, emphasising PPPs to drive infrastructure investment.
- **Stakeholder collaboration:** Strengthened inclusive engagement platforms, ensuring government leadership takes an active role in meetings to improve transparency and collaboration.

KwaZulu-Natal Leadership Forum

The KwaZulu-Natal Leadership Forum was established to provide a forum for KwaZulu-Natal mining companies, either members or non-members of the Minerals Council, to facilitate high-level strategic thinking about the current state, potential and future of the KwaZulu-Natal mining industry and address issues of common interest.

The forum provided a platform for mining companies in the region to address strategic industry challenges.

• **2025 agenda priorities:** The forum identified key focus areas, including security concerns (intimidation, extortion, diesel and cable theft), logistics challenges, water security, skills development and women's representation in the sector, for discussion in 2025.

Our stakeholders

The political changes resulting from the formation of the GNU and the Governments of Provincial Unity (GPU) in 2024 prompted the Minerals Council to rethink our approach to engaging with one of our most important stakeholders, namely government.

Fortunately, a combination of rigorous postelection scenario planning and pre-election consultations with political party leaders positioned us well to enhance our organisation's stakeholder relational capital under the new political dispensation.

As an organisation driven by its members, the Minerals Council serves a dual purpose: representing the sector while engaging with a wide range of stakeholders and collaborating with its member companies. The table below outlines some of the key stakeholders who played a significant role in our work during the reviewed period. It also highlights the ways in which we engaged with them and the main issues we addressed.

Our stakeholder mapping is guided by material risks the organisation faces, with a focus on being issue-based, impact-driven and inclusive. The figure below explains the different approaches the Minerals Council adopts when engaging our selected stakeholders.



Through our business activities and stakeholder engagement and advocacy, we aim to reposition the mining industry to maximise its potential and optimise its contribution to the South African economy. The value created is both indirect and extends beyond financial metrics – it must also be assessed in terms of its economic and social impact. We identified and prioritised the following key issues:

- Safety
- Health and wellness
- Environment
- Security of energy supply
- Advancing women in mining
- Constraints on minerals exports.



45

Stakeholders

Who we collaborated and/or worked with

- Government and members on providing bulk water in the Northern Cape (Vaal Gamagara Water Supply Scheme) valued at R12 billion
- Members in the Far Eastern Limp on funding of significant infrastructure projects, including the steel bridge replacement project, valued in excess of R120 million
- The National Prosecuting Authority (NPA) and the GBVF Response Fund to support victims of gender-based violence in mining communities
- Department of Science and Innovation on mining innovation
- Members and labour unions implementing the Masoyise Health Programme



Guidance

How we helped to guide our members of matters of critical importance

- Thought leadership videos produced and promoted
- Promoted WiM and acknowledged their contribution to the industry
- Vigorous promotion of mining-related RD&I
- Updated Khumbul'ekhaya safety and health programme together with the Stop-Act-Report initiative
- Encouraging modernisation in mining and industry's digital transformation
- Active engagement and participation in the Nedlac Labour Market Chamber and the Nedlac Labour Law Reform Task to help ensure the development of policy and legislation that is friendly to the industry



Communicate

How we shared information and influenced public discourse on mining

- Launched the inaugural #MiningMatters Campaign, highlighting the positive impact and relevance of mining on the economy, employees and communities in an award-winning initiative
- Maintained regular communication with 74 communication executives and practitioners from member companies
- Participated, engaged and presented at the Investing in African Mining Indaba in February 2024
- Participated in five conferences organised by Resources4Africa
- Wrote columns, published op-eds in online, daily and specialist publications
- Published Facts and Figures (pocketbook and full version) as well as our Integrated Annual Review
- Celebrated International Day of Women in Mining and other days celebrating the role of women in the economy and society
- Held AGM

Mining and sustainability

17 SDGs

The **17 UN SDGs** are at the core of the **2030 Agenda for Sustainable Development**, a globally adopted framework that sets out a vision for a more equitable, prosperous and sustainable world. As a universal call to action, the SDGs recognise that economic growth, social inclusion and environmental protection must be pursued in an integrated manner to drive long-term resilience and shared prosperity.

The Minerals Council acknowledges the critical role of the mining sector in advancing the SDGs, particularly in driving economic growth, reducing inequality, accelerating innovation and addressing climate change. Mining activities directly influence several SDGs – including those related to decent work (SDG 8), industry and infrastructure (SDG 9), responsible consumption and production (SDG 12) and climate action (SDG 13). Through strategic partnerships, the mining sector can play a transformative role in advancing goals related to clean energy (SDG 7), water security (SDG 6) and community development (SDGs 1, 2, 3, 4 and 10).

As described in this report, our business model, strategic priorities and materiality assessment reflect our alignment with the SDGs. We encourage our members to integrate the SDGs into their business strategies, measure and report their contributions and actively engage in multi-stakeholder partnerships to accelerate progress. While some SDGs fall outside the direct influence of the private sector, many can only be achieved through strong collaboration between industry, government, and civil society. In South Africa, the SDGs are closely aligned with the National Development Plan (NDP), reinforcing the need for a cohesive and systemic approach to sustainable development.

Through responsible mining practices, technological innovation and transparent governance, the sector can make a meaningful impact – helping to shape a future where economic success and sustainable development go hand in hand.



Targets: 5.1, 5.2, 5.5, 5b, 5c

Advancing the role of

women in mining

Priority SDGs

These are SDGs to which the Minerals Council and our members make a direct contribution.



Targets: 3.3, 3.8

- Preventative healthcare (employees and communities)
- Focus on mental health
- HIV/AIDS and TB prevention and treatment
- Safety initiatives



Targets: 8.1.1, 8.2, 8.3, 8.5, 8.6, 8.8

- Promoting responsible sustainable growth
- Direct and indirect job creation
- Direct and indirect investment
- Enterprise development and local procurement



Targets: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4a, 4b

- Investment in school infrastructure, and learner and educator support
- Provision of bursaries and scholarships
- Support to tertiary institutions (funding and infrastructure)
- Skills development and training (employees and communities)



Targets: 9.2, 9.5

- Investment in private and public infrastructure
- RD&I



5 GENDER

Ø

Targets: 12.2, 12.4, 12.6, 12.7

- Materials stewardship and integration in the circular economy
- Waste minimisation, reuse and recycling



6 CLEAN WATER AND SANITATIO

6

Targets: 6.1, 6.3, 6.4, 6.6, 6b

infrastructure and shared

• Pollution prevention, reuse

Mainstreaming of water

conservation and water

demand management

resources (with communities

• Investment in water

and municipalities)

and recycling

(WC/WDM)

Targets: 13.1, 13.3

- Decarbonisation of operations
- Support for mitigation, adaptation and impact reduction in respect of climate change
- Commitment to JET



Targets: 7.2, 7.3

- Reduction and optimisation of energy usage
- Transition to and investing in renewables



Targets: 17.16, 17.17

- Support for national and regional initiatives against crime and corruption
- Promoting transparency in reporting

Important SDGs

These are SDGs to which we, as the Minerals Council, can make an indirect contribution, often through partnerships with the public and private sector.





- Direct and indirect job creation
- Payment of taxes and royalties
- Supporting basic services and infrastructure



 Promoting inclusive economic growth and transformation



- Investment in accommodation and infrastructure for employees and communities
- Respect for and protection of heritage sites



- Support for ecosystem services
- Sustainable rehabilitation options
- Promoting and protecting biodiversity, including through offsets

Strategic partnership for the **SDGs**

The Minerals Council has signed a memorandum of understanding and became a strategic partner to the UN **Global Compact Network South Africa** in 2023. A task team within the Minerals Council has been set up to support the Voluntary National Review (VNR) Process that was established by the UN as an accountability mechanism. Through the VNR Process, the UN member states assess and present their national progress on the 2030 Agenda, including their performance on the 17 SDGs.

The Minerals Council task team has participated in VNR Process dialogues (as voluntary keynote speakers and leading voices for specific roundtable topics) and has also contributed to the VNR report through the submission of information. particularly case studies. The case studies submitted are based on initiatives within the Minerals Council that are aligned to the SDGs which include:



The WiM initiative (linked to SDG 5) focuses on leading by example in transforming the mining sector by breaking down barriers to entry, promoting equal opportunities for career advancement and encouraging a supportive and empowering work environment for all.



Please click here to read more in this report.



The Masoyise Health Programme (linked to SDG 3) is a multi-stakeholder programme that leads the South African mining industry's commitment to fight TB, HIV and AIDS, OLDs, non-communicable diseases (NCDs) and mental health illnesses. The focus is on disease reduction, management and support.

Please click here to read more æ in this report.



The WC/WDM (linked to SDG 6) selfassessment reporting tool supports government regulatory requirements for water use efficiency in mining. Facing water supply insecurity, the mining sector integrates WC/WDM practices to ensure sustainable water management. We spearheaded the development of a user-friendly tool, addressing challenges in the allocation, development and protection of water resources. Mainstreaming WC/WDM ensures water use efficiency and pollution mitigation through systematic steps: avoidance. minimisation, mitigation and correction. Our ambition is to lead in developing tools for mining to implement WC/WDM principles, promoting sustainable mineral resource development and ensuring clean water and sanitation for all.



48

CASE STUDY

SUSTAINABLE DEVELOPMENT SPECIAL PROJECT: PILOTING "TOWARDS SUSTAINABLE MINING"

The Minerals Council South Africa commissioned a feasibility study to evaluate the potential for adopting the Mining Association of Canada's Towards Sustainable Mining (TSM) framework as a key standard for its members. The study, undertaken by Unifi in collaboration with the Minerals Council, focused on understanding the implications of implementing TSM in the South African mining sector. The primary objective was to assess whether TSM could be a viable standard for managing EESG performance, particularly in the context of existing regulatory frameworks and reporting obligations in South Africa. Importantly, this study was not an audit of TSM, but an exploration of its feasibility for future adoption.

Three mining companies – Ekapa Group, Orion Minerals and PPC Mooiplaas – volunteered to participate in the study as pilot sites. Through a series of engagements and TSM self-assessments, these companies provided insights into the practical challenges and opportunities associated with implementing TSM protocols in their operations. The study highlighted strong alignment between TSM and the existing environmental and social regulations at these sites, particularly in areas such as Water Stewardship. However, gaps were also identified with the pilot sites, such as in Crisis Management and Communications Planning, where systems were found to be underdeveloped.

Beyond the pilot companies, other stakeholders, including Anglo American, Initiative for Responsible Mining Assurance (IRMA), Sibanye-Stillwater and Exxaro, provided valuable input. Anglo American offered insights into their experience with TSM and IRMA, while Exxaro's self-assessment on select TSM protocols provided an indication of how larger mining operations might perform under the framework. IRMA contributed perspectives on market dynamics, especially regarding supply chain expectations.

A key consideration in the feasibility study is the upcoming Converged Mining Standard, a unified framework being developed by the Mining Association of Canada, ICMM, the Copper Mark and the WGC, TSM already covers many of the areas expected to feature in this converged standard, which could reduce the reporting burden on companies already aligned with TSM. However, there remains a degree of uncertainty around the timelines for finalising and implementing the Converged Standard. As such, the feasibility study recommends that the Minerals Council should not delay its decision on adopting TSM while awaiting the Converged Standard. Historically, industry convergence efforts have generated initial excitement, but have often struggled to achieve full alignment across sectors. potentially leading to further delays.

The study concludes that adopting TSM could provide a relatively low-effort opportunity for South African mining companies already engaged in sustainability practices, provided that sufficient support and guidance is available. A phased implementation approach, allowing companies to integrate TSM protocols gradually, is recommended to mitigate the challenges of adopting a new framework. Additionally, conducting a comprehensive cost analysis is essential to evaluate the financial impact on companies of varying sizes, ensuring that smaller operations can feasibly adopt the standard.

