Strategic Command
Defence Support

Support Modelling and Analysis Framework

Enhancing evidence based decision making to improve Support to the Front Line

Contents

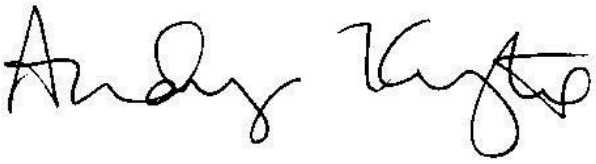
Foreword from the Chief of Defence Logistics and Support

Against a backdrop of persistent and unpredictable global threats, the need to continually enhance decision making across Defence is ever present, as highlighted in the digital and data strategies published by both Head Office and the Front-Line Commands.

Defence needs to sharpen its strategic foresight and align the delivery of Support with these strategies. This includes cohering and prioritising Support modelling and analysis across Defence to ensure that we set a clear understanding of demand, increase resource efficiency, and mitigate Support-related risks. Achieving this will ultimately help to sharpen Defence's edge and secure operational advantage.

Subordinate to the Defence Support Strategy, this new Framework is focused on prioritising and exploiting modelling and analysis activity across the Defence Support Enterprise, setting the conditions that allow us to move to common standards and common ways of working and open-up our modelling tools, techniques and operating models to the whole Defence Support community, including industry. This open approach will enable 'what if' scenario and simulation testing on a common platform using a common and endorsed support modelling data set.

I commend this Framework to you all.



Vice Admiral Andy Kyte CB

Chief of Defence Logistics and Support (CDLS) and Functional Owner for Support

Executive summary

This Framework outlines the requirement for Support modelling and analysis within Defence and how we will work together collaboratively to achieve our aims. It includes a Foreword, Executive Summary, Strategic Context and Diagnosis. The Ends, Ways and Means sections follow which in turn set out: the Vision and Strategic Outcomes; the Ways through five change interventions; and the Means deemed necessary to achieve successful delivery.

An integrated approach is essential to ensure the framework provides coherence across the myriad of stakeholders invested in Defence Support. The Ministry of Defence (MOD) and industry are key enablers to successful establishment of an integrated through life, end to end, Support modelling and analysis capability. This will enable Defence to be at the forefront of:

- **Demand planning of Support**. Predictive insights, for the planning and development of Support strategies, will be realised through analysis of clear and measurable demand signals.

- **Optimisation of platform design.** Early phase core design of platforms is a key determinant of future supportability, and Support modelling and analysis needs to be in place at this early stage to demonstrate the impact of design decisions on future Support.

- **In-service Support decision making**. Support modelling and analysis is a crucial enabler to optimising our Defence platforms through continuous, iterative, modelling and analysis as programmes progress through milestones, upgrades/modifications, and approvals.

- **Improvement of Defence outputs and supply chain resilience.** Defence projects which aim to improve defence outputs and supply chain resilience, whether through investment in the Support organisations or efficiencies, require Support modelling and analysis to ensure their decision making is evidence based.

Effective Support modelling and analysis provides a foundation for informed, evidence-based, decision-making to achieve performance, time, and cost targets. This will ensure the MOD meets project and programme requirements whether these are Availability, Capability or Sustainment based. Failure to exploit Support modelling and analysis within the organisation will have the following consequences:

- **Reduced readiness and resilience.** If Equipment Support is not optimised, we will not attain the availability, capability, sustainment necessary to deliver and improve Support to the Front Line. If we do not model our response to changing threats and technology, and if we fail to analyse impacts of supply chain disruption, then our Support solutions will not be resilient.

- **Unsupportable platforms.** If Support modelling and analysis is not utilised early in equipment lifecycles then platforms will enter service with unsupportable maintenance burdens and costs, or with core designs and fleet sizes which cannot inherently meet our demand signal.

- **Resource misallocation.** Our resources, whether funding, people, infrastructure, or equipment, are limited and a failure to commit them efficiently results in waste and missed opportunities.

- **Technological lags.** We will fall behind potential adversaries in technology adoption if we do not embrace new modelling and analysis techniques. Use of digital and Artificial Intelligence (AI) to optimise Support are in their infancy, but failure to develop core Digital Twins, Machine Learning (ML) Support modelling and analysis practices will compromise Defence's ability to integrate these future capabilities.

In summary, effective Support modelling and analysis is a key enabler to Defence asserting a proactive posture which is critical to achieving the Defence Purpose to 'Protect the nation and help it prosper'[1].

Strategic context

Ever-increasing geopolitical threats, from Russia's illegal invasion of Ukraine to China's economic coercion and increased competition between states, are central to the UK's shift in Defence strategy.

The Integrated Review Refresh 2023 responds to a more contested, volatile world, and sets out the UK's core and higher national interests, and the Defence Command Paper Refresh (July 2023) establishes the UK's plan to deliver a credible warfighting force that can best fulfil the Defence Purpose. This includes a focus on integration internally across Defence and externally with allies, partners, and industry, including how Defence optimises relationships with industry to help ensure that a resilient strategic base endures.

There is a pressing need to protect the security and prosperity of the nation putting an even greater emphasis on the need to improve our organisation's ability to think and act strategically. This will enhance our understanding of both the strategic context and tactical delivery, build a strong evidence base for informed decision making at the outset, challenge assumptions and optimise military capability to continually secure operational advantage.

Support spans the Maritime, Land, Air, Space and Cyber domains, and has a significant contribution to make to both current and future Defence outputs. It is a critical enabler of military capability and accounts for c30% of Defence's annual budget.

The Defence Support Strategy (DSS) intent is clear - to enhance operational capability through delivering improved Support to the Front Line – achieved through a paradigm shift in equipment and platform availability. It acknowledges there are significant challenges to overcome before we can achieve this, including many instances of poor platform availability, low productivity, poor use of data, poor resilience, and inefficiency.

Importantly, several wider Defence strategies and initiatives recognise, and aim to address, similar and related challenges to those stated in the DSS. Strategies include the Defence Digital Strategy, the Defence Data Strategy, and the Defence Equipment and Support (DE&S) Strategy refresh. Initiatives include the Defence Availability Capability Centre (DACC), the Digital Engineering Capability Centre (DECC), and the Battlespace Integration Capability Centre (BICC) - noting that the DACC, DECC and BICC are combined within

[1] Defence Strategy 23.

Digital Exploitation for Defence Centre (DX4D) and Improving Defence Outputs (IDO). All share the same ultimate goal of optimising Defence capabilities by raising the availability, sustainment, and resilience of key platforms to improve operational readiness.

Given the role of Support, it is imperative that the Support Function stays aligned and integrated with all of these to achieve optimum effect. Delivering effective Support modelling and analysis is fundamental to the successful delivery of these strategic aims.

1. Scope

1.1 Support modelling and analysis core activities

Support modelling and analysis is both end-to-end and through life, encompassing both Support services and enablers (including Support personnel and infrastructure). The scope of this Support Modelling and Analysis Framework encompasses all three Support elements, namely Logistics Support, Engineering Support and Equipment Support, which are outlined in the DSS.

Figure 1 illustrates the core Support modelling and analysis activities that should be considered by platforms and programmes. This is not a definitive list of all Support modelling and analysis techniques, and neither does it dictate that all areas always need to be modelled and analysed. The decision as to what breadth and depth of Support modelling and analysis is required should be agreed early in the lifecycle by the project, Support modelling and analysis and assurance teams, and then reviewed as the project matures across the Concept, Assessment, Demonstration, Manufacture, In-Service, Disposal (CADMID) process. Support modelling and analysis is an iterative process. Across the CADMID process it is likely the different areas of Support modelling and analysis illustrated in Figure 1 will be revisited and updated multiple times as the Support solution matures.

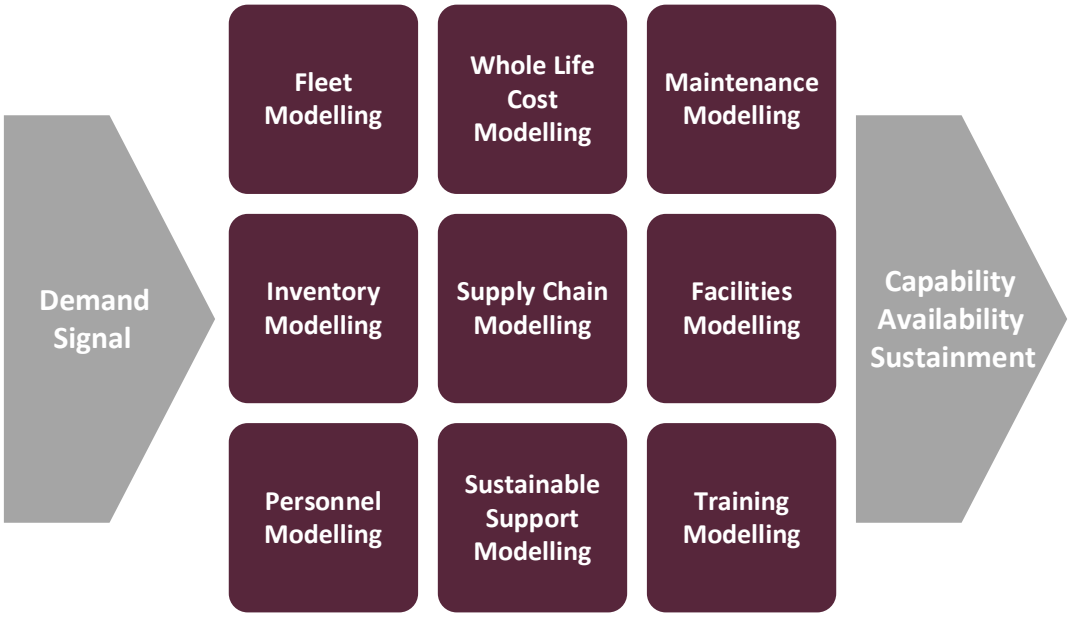


Figure 1: Scope of Support modelling and analysis activities

In addition to the techniques listed in Figure 1, it is recognised that outputs from Support modelling and analysis are required in other MOD modelling and analysis activity which is considered out of scope for this Framework. This includes integrated financial risk modelling which requires analysis of Support risks and their cost impact. Simulation of warfighting and operational planning is also currently considered out of scope, although it is recognised that Support modelling and analysis outputs will provide assumptions for these modelling processes; for example, to determine outload modelling of transport options, sustainment of deployments and supply chain resilience.

This Support Modelling and Analysis Framework is focussed on the Logistics, Engineering and Equipment Support required to deliver Defence outputs. Defence Equipment and

Support (DE&S) and the Submarine Delivery Agency (SDA), maintain responsibility for placing and managing the majority of Support contracts, and as such they are key organisations for the implementation of this Framework. DE&S already has an active Support modelling and analysis capability, but they are focused predominantly on inventory modelling rather than the full range of techniques in Figure 1. The Support modelling and analysis capability within the Front Line Commands (FLCs), which often target demand signals and equipment capabilities, are also considered in scope of the approach this Framework is introducing, as Support modelling and analysis activity needs to be coherent across the Defence Support Enterprise (DSE).

1.2 Support modelling and analysis across the Defence Support Enterprise

Support modelling and analysis both operates within, and applies across, a complex landscape. The DSS, and more recently the Support Advantage Industry Charter[2], recognise the critical role of Support modelling and analysis in enhancing evidence-based decision-making across the DSE with the Team Defence Information (TDI) Modelling and Analysis Community of Practice (CoP) noting that:

> *"Whilst both MOD and Industry have pockets of excellent modelling and analysis capability, the absence of a clear MOD strategy (supported by appropriate process and policy, standards and principles) has led to inconsistencies in how this capability is delivered. Due to its high importance in helping achieve many Defence Support Strategy Strategic Outcomes, there is a need to address this shortfall."*
>
> **TDI Modelling and Analysis Community of Practice** – May 2022

The Support Modelling and Analysis Framework is led by the Chief of Defence Logistics and Support (CDLS), as the Functional Owner for Support, working collaboratively with DE&S, wider MOD, and industry stakeholders to ensure a coherent perspective on improving operational output and integration across the DSE. An integrated approach to delivering Support modelling and analysis needs to consider the many key drivers, stakeholders, and influences across the DSE as illustrated in Figure 2.

[2] Signed at Support NET 2022 by CDLS on behalf of the MOD Support Function, Deputy CEO DE&S on behalf of MOD Enabling Organisations and Chief Innovation and Technology Officer of Babcock International Group on behalf of the Defence Supplier Forum.

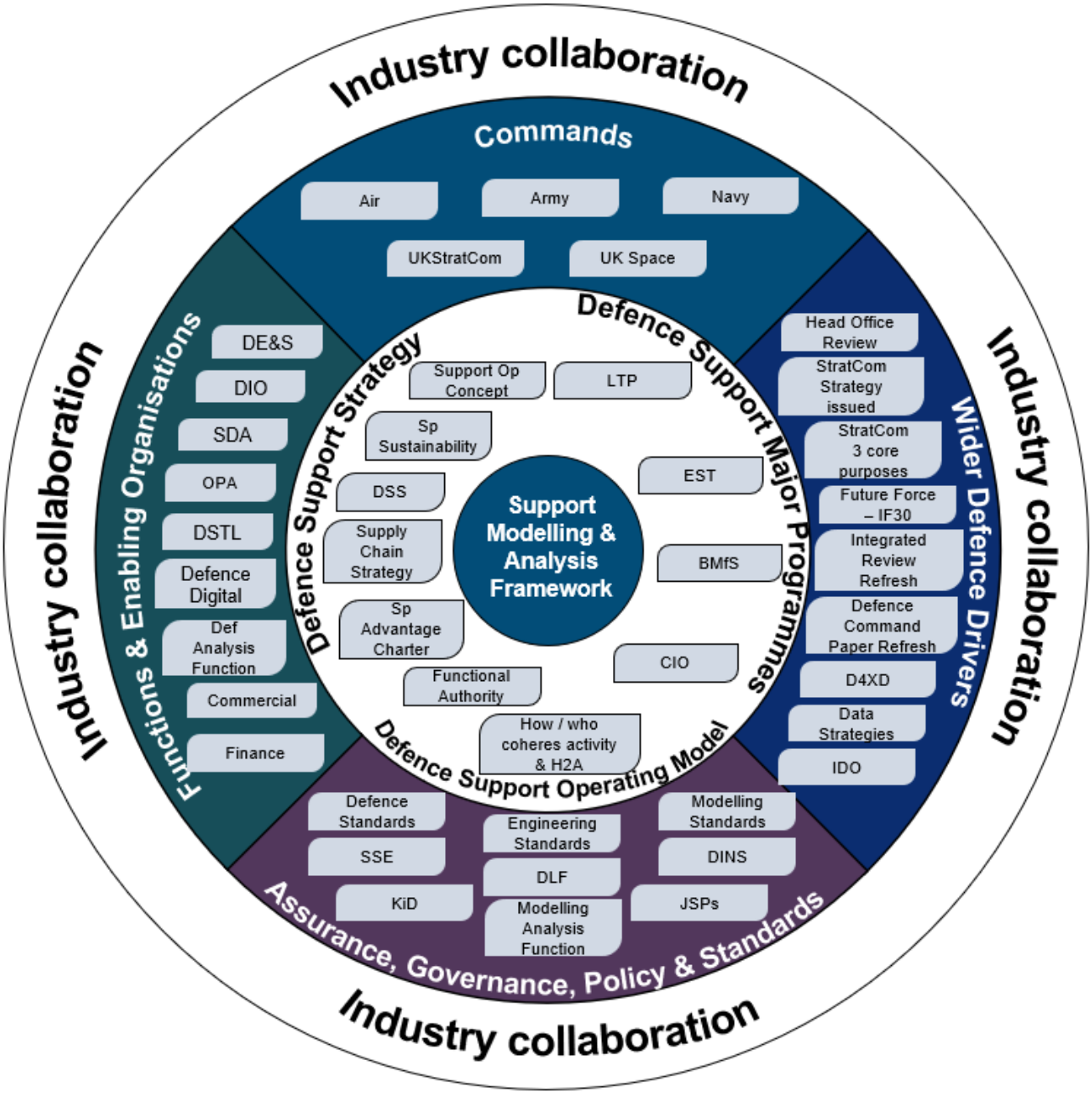


Figure 2: Stakeholders and Influences

1.3 Support Lifecycle

Support modelling and analysis covers the end to end through-life process. Figure 3 gives a high-level indicative summary of where Support modelling and analysis should be adding value to the pre-concept and CADMID process.

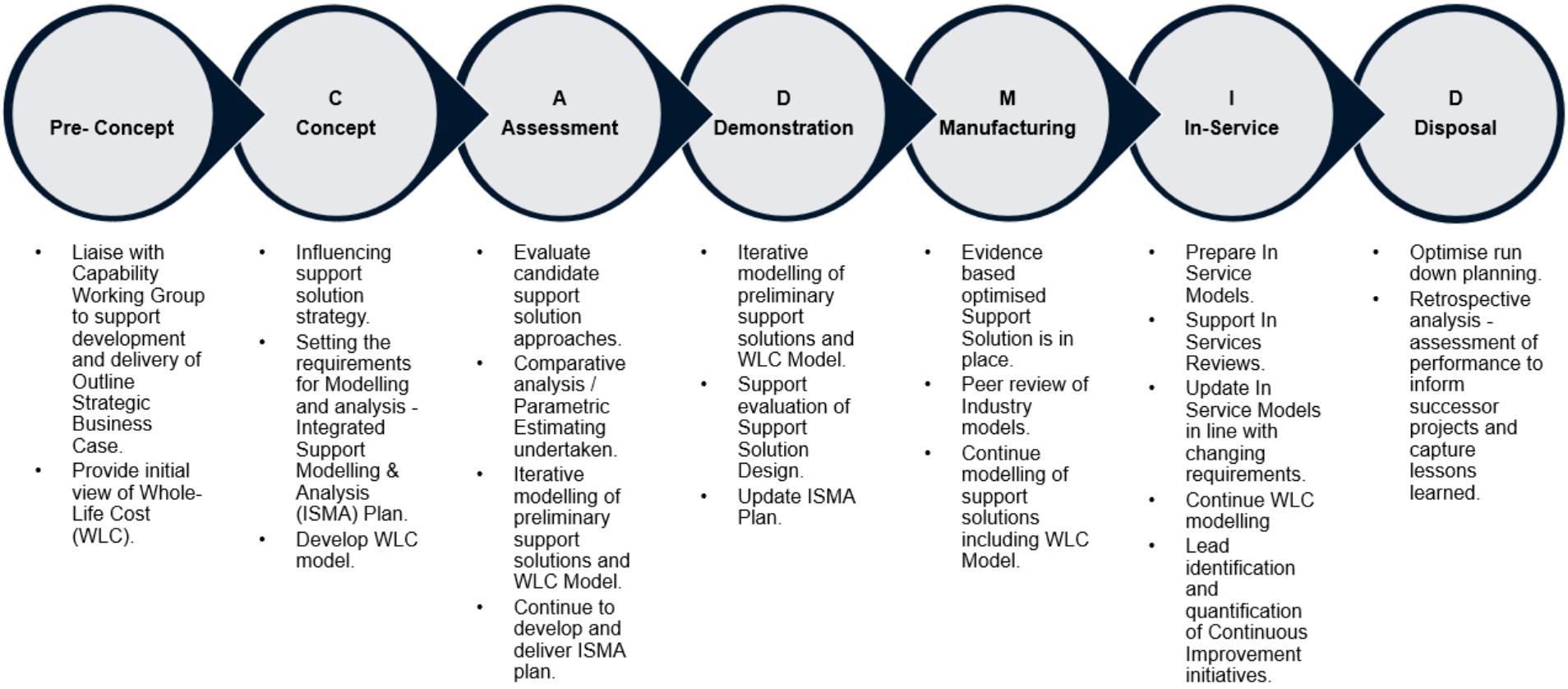


Figure 3: Pre-concept and CADMID Cycle

1.4 Approach to developing this Framework

The five elements shown in Figure 4 are identified as enablers in either the Ways or the Means to deliver the desired strategic outcomes of this Support Modelling and Analysis Framework. They are considered the lenses to aid the identification and development of the specific interventions (Ways) that are required to deliver the Vision and Strategic Outcomes (Ends).

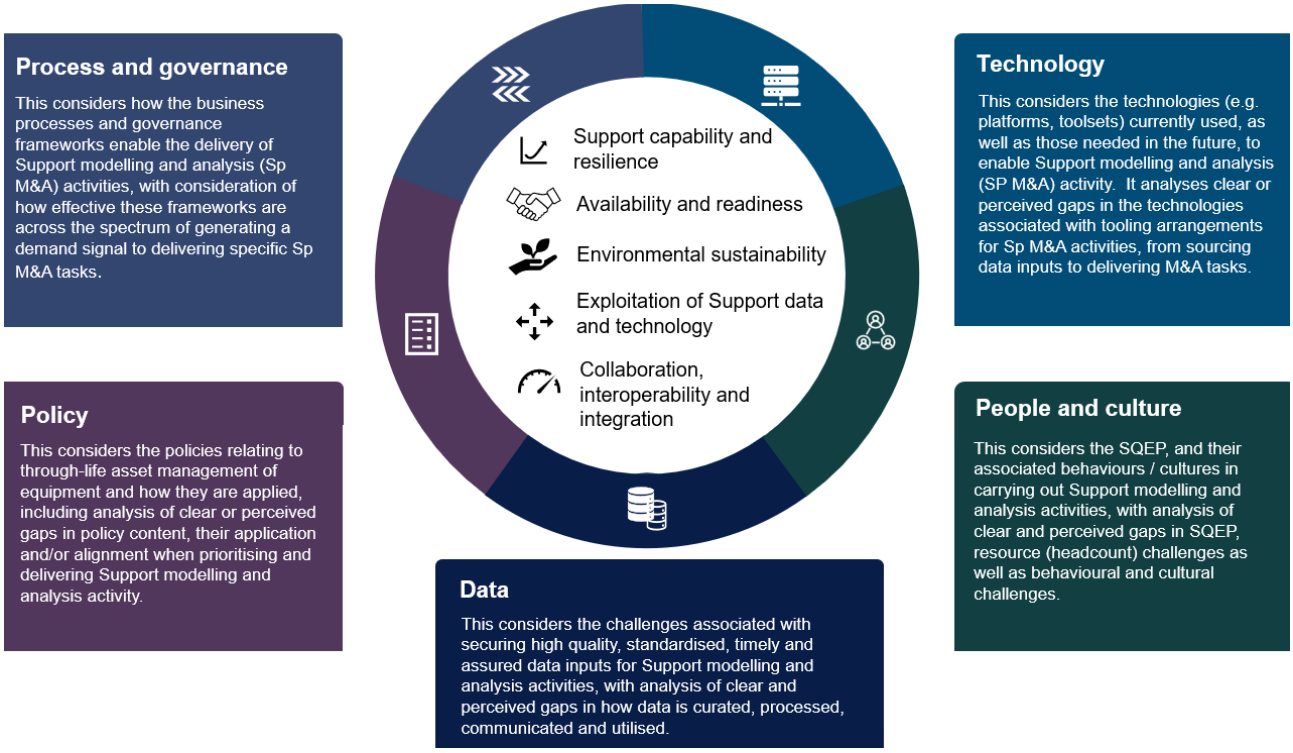


Figure 4: Approach to developing this Framework

Development of the Framework required the current 'As-is' state of Support modelling and analysis to be determined through consideration of these enablers. Two primary 'Use cases' were explored within the DE&S and Strategic Command (UKStratCom). These considered programmes to drive platform availability and readiness through end to end through life management, to introduce Strategic Asset Management principles to Defence and to undertake equipment inventory and spares modelling. In addition to this, the use case findings were supplemented by reviewing other Support modelling and analysis activity, including KRAKEN[3], Forecast and Resource Planning (F&RP) and performance reporting.

[3] KRAKEN: NAVY project for provision and coherence of data integration.

1.5 Diagnosis of Support modelling and analysis

The diagnosis work highlighted that the primary focus of Support modelling and analysis activity is currently on in-service equipment, especially inventory, with limited focus on through-life equipment and non-equipment activity. Additionally, between MOD and industry, and even within these environments, there is a lack of coherent and collaborative engagement. The diagram at Figure 5 summarises the issues identified against each of the five enablers.

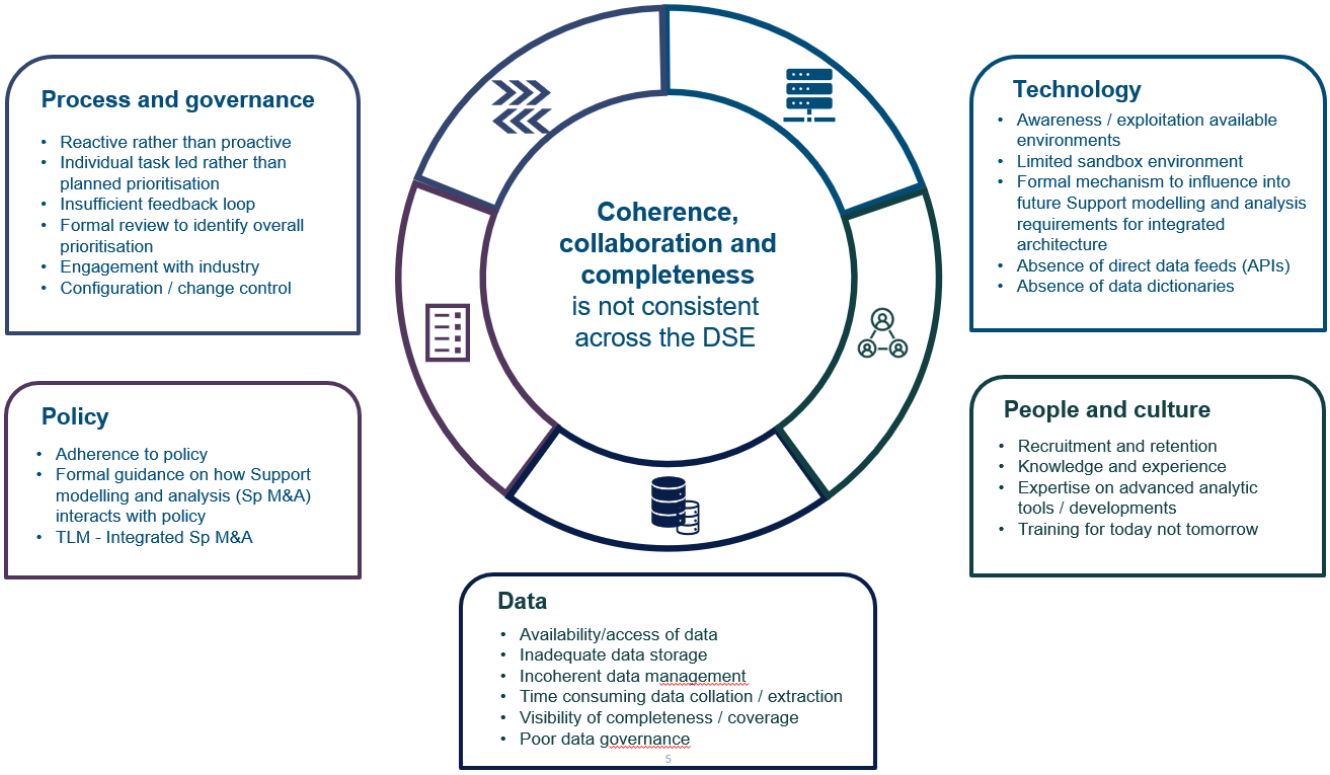


Figure 5: Issues Identified in Diagnosis

1.6 Framework on a page

Figure shows the Support Modelling and Analysis Framework on a page, highlighting how the Support modelling and analysis vision aligns with DSS intent and how the 'Way's align with the 'Means' required to deliver the 'Ends' for the Support Modelling and Analysis Framework.

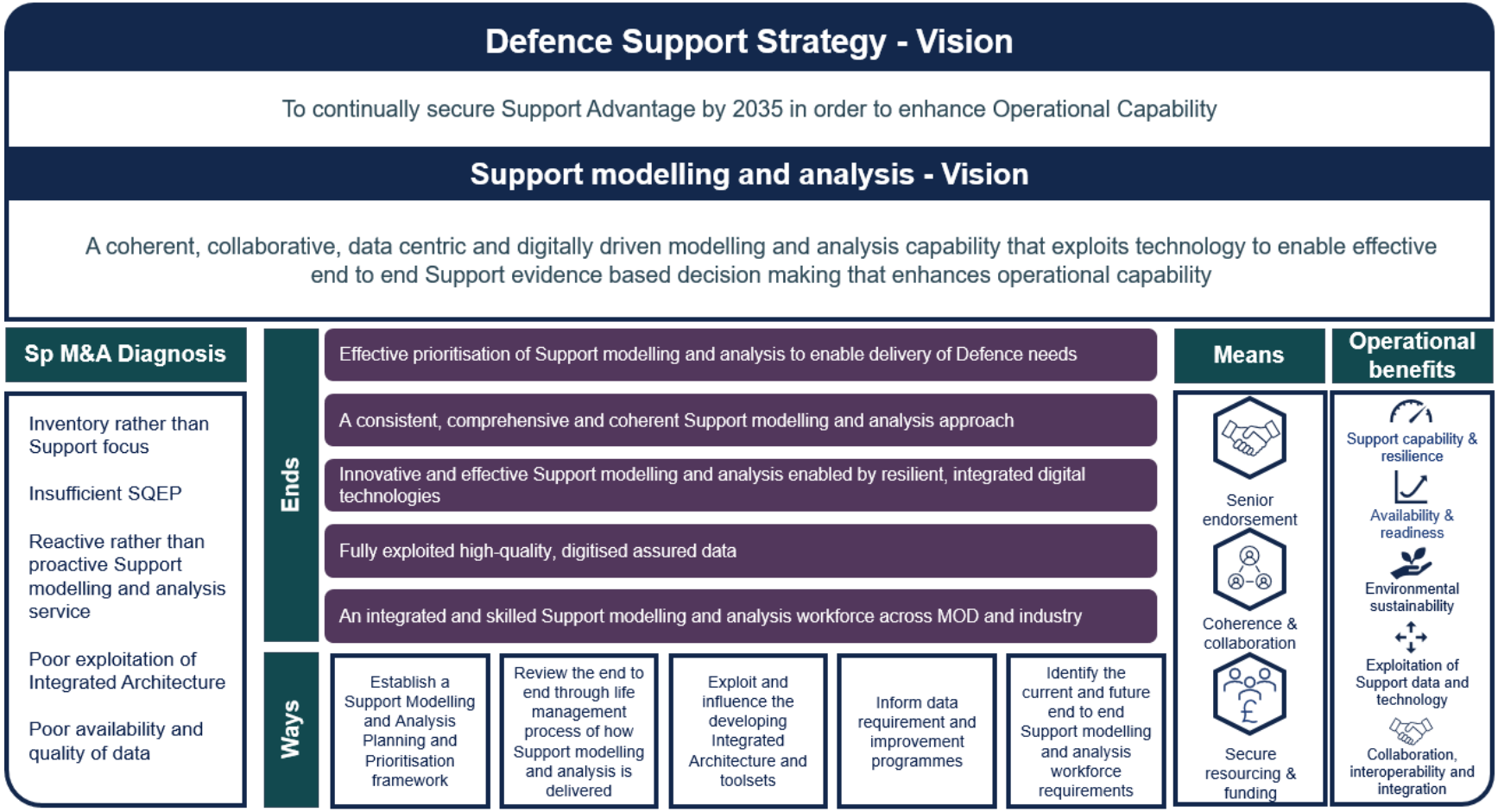


Figure 6: Framework on a page

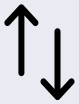
2. Ends: Vision and Strategic Outcomes

2.1 Vision

A coherent, collaborative, data centric and digitally driven modelling and analysis capability that exploits technology to enable effective end to end Support evidence-based decision making that enhances operational capability.

2.2 Strategic outcomes

2.2.1 SO1: Effective prioritisation of Support modelling and analysis to enable delivery of Defence needs



Effective prioritisation of Support modelling and analysis to enable delivery of defence needs with clearly articulated strategic and tactical demand signals and resilient capacity planning to deliver the highest prioritised defence needs effectively and efficiently.

Support modelling and analysis requirements and activities are prioritised and responsive to inform balance of investment decisions that maximise operational benefits. Effective prioritisation is enabled by:

2.2.1.1 Support requirements that are prioritised by defined value, and are communicated by an endorsed Support modelling and analysis prioritisation framework.

2.2.1.2 A framework that takes account of both strategic and tactical needs and covers the end to end platform and equipment lifecycle and key questions relating to maximising and optimising availability, readiness, and resilience.

2.2.1.3 A framework that will be referred to by those managing the Support modelling and analysis resources.

2.2.1.4 Support requirements and priorities that are subject to a formal process of periodic review and updated as appropriate.

2.2.1.5 A clear plan that balances Support modelling and analysis resource allocation to deliver the prioritised requirements, and, where appropriate the ability to identify and communicate where there is a need to increase resources in an area when the requirement to act is greater than the capacity to deliver.

2.2.1.6 Identified Support modelling and analysis resources and capabilities with clearly defined roles and responsibilities across the DSE.

2.2.2 SO2: A consistent, comprehensive, and coherent Support modelling and analysis approach

A consistent, comprehensive, and coherent through life Support modelling and analysis approach with increased collaboration with industry, wider Defence Functions, allies, and partners, supporting evidence-based decision making across the Defence Support Enterprise.

2.2.2.1 Support modelling and analysis is a key enabler to support evidence-based decision making, providing full alignment and compliance with agreed standards, policy, and governance, with collaboration of Support modelling and analysis teams across MOD and Industry.

2.2.2.2 A coherent through-life asset management approach to providing an informed understanding towards platform whole-life cost and availability.

2.2.2.3 Support modelling and analysis roles and responsibilities that are clearly defined and understood across the DSE, identifying which inputs and outputs are required at each stage of the activity illustrated in **Error! Reference s ource not found.**.

2.2.2.4 Collaboration and clear communication with industry that delivers an informed set of data assumptions and practices.

2.2.3 SO3: Innovative and effective Support modelling and analysis enabled by resilient, integrated digital technologies

Innovative and effective Support modelling and analysis enabled by resilient, integrated digital technologies, meeting the Support Function's needs through stronger collaboration with Business Modernisation for Support (BMfS) and Defence Digital to ensure that the developing Integrated Architecture fully supports Support modelling and analysis delivery.

The capabilities of digital technologies are scalable and able to integrate across multiple toolsets and environments, so that Support modelling and analysis technologies:

2.2.3.1 Seamlessly integrate relevant applications, such as modelling, data analysis and dashboarding for Support modelling and analysis activities, configured through a common user-friendly interface.

2.2.3.2 Collate structured and unstructured data from multiple sources, such as Army Data Warehouse (ADW), Support Data Warehouse (SDW) and KRAKEN.

2.2.3.3 Access required data within the appropriate speed of relevance.

2.2.3.4 Are accessible, interoperable and secure, exploiting advanced Artificial Intelligence / Machine Learning application tools.

2.2.3.5 Are intuitive to use across a wide range of Support modelling and analysis activities.

2.2.3.6 Provide access to a secure development environment for continuous improvement.

2.2.4 SO4: Fully exploited high-quality, digitised assured data

Fully exploited high-quality, digitised assured data that rapidly adapts to customer requirements, delivering the required information in a timely manner to make key decisions on availability, readiness and resilience.

The quality, provenance, and the ability to store, access and manipulate data is a foundation for high quality and informative Support modelling and analysis outputs.

The availability and the quality of data is recognised as an area requiring attention across MOD, and this is a critical issue within Support modelling and analysis activity. MOD have published data strategies, the Strategic Outcomes outlined in these data strategies are aligned to Support modelling and analysis requirements.

The Defence Data Strategy outlined the following Strategic Outcomes:

- Data is curated, integrated and human and machine ready for exploitation.
- Data is treated as the second most important asset only behind our people.
- Our people are skilled and exploiting data to drive advantage.
- Defence are data leaders with partners, allies, and industry.

Whilst Support modelling and analysis will not be responsible for the delivery of data improvement, it has a key role in supporting the DSE elements of Defence Data Strategy outcomes.

Support modelling and analysis will be capable of ensuring that:

2.2.4.1 Whenever appropriate, Support modelling and analysis leverage common data and platforms. This will support timely, cost-effective, and simpler exploitation of data for the same outcomes.

2.2.4.2 Data requirements are identified, assessed, clearly articulated and ‘fit for purpose’ against the demands and needs of the customer.

2.2.4.3 Data requirements for decision making are endorsed, managed, governed, documented and accessible.

2.2.5 SO5: An integrated and skilled Support modelling and analysis workforce across MOD and Industry

An integrated and skilled Support modelling and analysis workforce across MOD and industry, thriving in a culture that encourages learning, upskilling, and exploiting tools and technology to enable the Support modelling and analysis workforce to be flexible in delivering customer requirements.

A capable, skilled, and knowledgeable workforce delivering Support modelling and analysis activity, driven by the need for greater availability, reliability, and resilience across the DSE so that the Support modelling and analysis workforce:

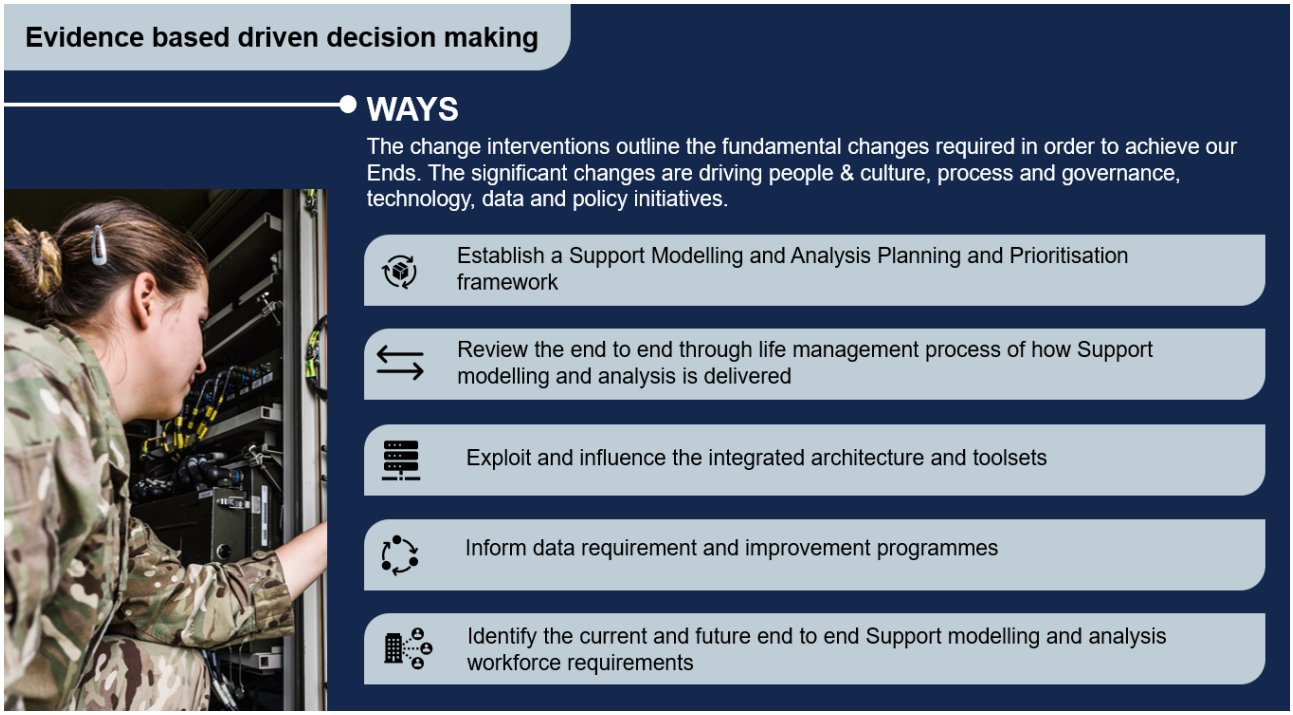
2.2.5.1 Exploits advanced digital technology to deliver data-led insights using digital capabilities such as Cloud Services, Machine Learning, Artificial Intelligence, Robotics, and Advanced Analytics.

2.2.5.2 Has a diverse mix of suitably, qualified and experience personnel (SQEP) of Logistics Support, Engineering Support and Equipment Support across the DSE.

2.2.5.3 Has expertise in the through-life asset management of equipment and, understands the roles of Defence Support, DE&S, and industry and the range of potential contractual arrangements from the pre-concept phase to the disposal phase.

2.2.5.4 Is agile, exhibiting a culture of collaboration and proactively engages with MOD and industry stakeholders.

3. Ways: Change interventions (CI)



3.1 Approach to interventions

The MOD recognises the opportunities for exploitation of digital technologies and data, so initiatives are progressing in this area including the development of end to end Support policy and governance, the launch of data improvement initiatives and the delivery of new Support tools and architecture. The delivery of the Support modelling and analysis activity will be enabled through engagement with these relevant programmes and teams (including modelling and analysis delivery teams), and by ensuring the requirements of Support modelling and analysis are aligned to the Support modelling and analysis Vision and Strategic Outcomes.

3.1.1 CI-1: Establish a Support modelling and analysis planning and prioritisation framework

Establish a Support modelling and analysis planning and prioritisation framework through effective governance, collaboration with relevant stakeholders, and the development of clear roles and responsibilities.

The current planning and prioritisation of Support modelling and analysis activities are largely reliant on delivery team tasking requests, the response time is influenced by data availability, these tasks are then subject to review and a level of prioritisation.

Due to the reliance on requested tasking, this process does not adequately ensure that there is a record to identify coverage across all Support modelling and analysis elements, equipment lifecycle and individual equipment types.

Prioritisation needs to consider the strategic importance of the equipment/asset, cost, and complexity of the end to end equipment lifecycle.

To address these issues the following steps are recommended:

3.1.1.1 Identify stakeholders / owners to develop a process outlining the prioritisation criteria aligned with DSE requirements.

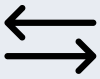
3.1.1.2 Review current prioritisation process and assess against current level of coverage (e.g. by platform, by inventory) across the DSE.

3.1.1.3 Review current governance of the prioritisation mechanism to manage the funnel of demand:

- Determine prioritisation drivers and understand impact.
- Define agreed priority classification.
- Formalise end to end engagement process.
- Widen scope from in-service inventory to end to end whole-life Support.
- Alignment to Defence planning assumptions.
- Coherence of Support modelling and analysis activities.

3.1.1.4 With key stakeholders, develop a proactive planning and prioritisation process embedded within the Support modelling and analysis governance.

3.1.2 CI-2: Review the end to end through life management process of how Support modelling and analysis is delivered



Review the end to end through life management process of how Support modelling and analysis is delivered with redefined Support modelling and analysis and industry roles and responsibilities across the DSE.

The current focus of the Support modelling and analysis is predominantly on in-service inventory ranging, scaling, replenishment, and associated support performance. The engagement process is largely reactive, being heavily reliant on the end customer raising a request for Support modelling and analysis.

Support modelling and analysis has an important role in the through life management of equipment and an in-depth formal review of how Support modelling and analysis should engage at all the stages of through life management is recommended, in order to identify any gaps and agree the roles and responsibilities as it pertains to Support modelling and analysis.

This will be addressed by:

3.1.2.1 Developing and delivering a Support modelling and analysis stakeholder engagement programme with the aim of increasing the knowledge and awareness of the end to end Support modelling and analysis.

3.1.2.2 Continued engagement with the Support Solution Officers (SSO) and the wider approvals, governance, and process organisation across the DSE.

3.1.2.3 Reviewing current Support modelling and analysis processes to assure through-life Support modelling and analysis requirements and master data assumptions are captured.

3.1.2.4 Establishing an agreed position including the identification of the required stakeholders for the delivery and governance of Support modelling and analysis processes.

3.1.2.5 Ensuring appropriate levels of Support modelling and analysis engagement are considered across the equipment platforms.

3.1.3 CI-3: Exploit and influence the developing integrated architecture and toolsets

Exploit and influence the integrated architecture and toolsets from BMfS and Defence Digital future architecture to ensure users can exploit data, and have available tools, and technology to deliver high-quality data, modelling, and analysis.

3.1.3.1 Business Modernisation for Support (BMfS) and Defence Digital are driving major change within the MOD integrated architecture. It is essential that the Support modelling and analysis community fully understand and utilise the capability that is provided today and work closely with BMfS and Defence Digital to influence the development of the integrated architecture that supports Support modelling and analysis requirements.

To address these issues the following steps are recommended:

3.1.3.2 Ensure Support modelling and analysis and its users have the knowledge and understanding to exploit the Support integrated architecture and Support modelling and analysis toolsets. This will be actioned by a continuous programme of reviews / collaboration with BMfS and Defence Digital.

3.1.3.3 Investigate wider reviews across industry, academia, and others such as the MOD Analysis Function to capture good practice applicable to Defence.

3.1.3.4 Provide an on-going demand signal to influence the evolution of the Support integrated architecture / toolsets.

3.1.4 CI-4: Inform data requirement and improvement programmes

The quality and availability of data varies considerably across the DSE. Data is such an integral component of Support modelling and analysis. It is therefore essential that Support modelling and analysis contributes to the identification and prioritisation of the areas for improvement.

Inform data requirement and improvement programmes to drive continuous improvement and how to best utilise key data to drive faster decision making for availability, readiness and resilience.

To address these issues the following steps are recommended:

3.1.4.1 Identify and engage with current data improvement projects and programmes.

3.1.4.2 Identify, assess, and prioritise the current data available and the additional data required for Support modelling and analysis.

3.1.4.3 Work with stakeholders across MOD and industry to drive continuous improvement across the DSE.

3.1.4.4 Use the identification and prioritisation of Support modelling and analysis data requirements to influence the development of toolsets and processes for data management, data sharing and governance.

3.1.5 CI-5: Identify the current and future end to end Support modelling and analysis workforce requirements

Rapid changes in technologies will require the continual evolution and development of Support modelling and analysis skills with associated resource implications. This intervention will be predicated on the outputs of the change interventions in this framework.

The initial analysis identified that although there are examples of effective Support modelling and analysis activity across MOD, there is a lack of consistency and integration across the DSE. The full Equipment Support lifecycle is not adequately covered, with the primary current Support modelling and analysis activity focused on inventory and spares within the in-service lifecycle phase.

Identify the current and future end to end Support modelling and analysis workforce requirements with redefined roles and responsibilities and SQEP profiles to deliver Support modelling and analysis activity.

This will be addressed by:

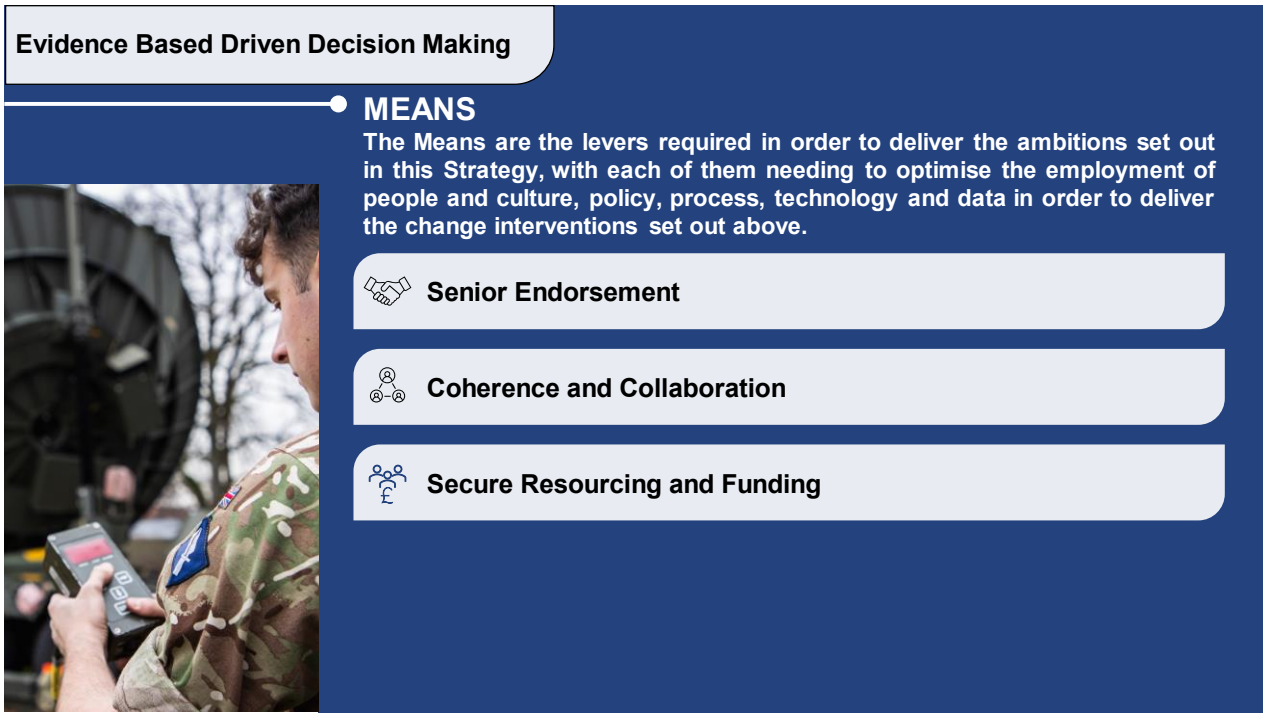
3.1.5.1 Reviewing current Support modelling and analysis activity across the DSE, to identify current toolsets, resources including skillsets, roles and responsibilities and organisational structures.

3.1.5.2 Aligning workforce requirements to the review of the end to end process with assumptions of future integrated architecture and toolsets.

3.1.5.3 Identifying the required SQEP and grade mix based on resource and sourcing options.

3.1.5.4 Identifying training requirements based on workforce, SQEP and grade mix requirements.

4. Means: Enablers for success



4.1 Senior endorsement

Defence's senior leadership is championing digital integration and agility to drive the best use of optimised evidence, analysis, structures, and processes so that we significantly raise the availability of key platforms and secure operational advantage across all scenarios.

Achieving a modern and coherent Support modelling and analysis capability plays directly into the above but relies on the full and engaged buy-in of senior Support leaders in both the MOD and industry to be successful.

This can only be achieved through early and ongoing collaboration where activity is driven by agreed priorities and shared responsibilities, as brought out by the introduction of the Support Advantage Industry Charter.

The signatories of that Charter have brought the Defence Support organisation, DE&S, and industry together in committing to deliver this Framework which will require:

- an allocation of resources.
- prioritisation necessary to drive forward the activity set out in this document.
- regular assessment of progress.
- the adjustment of change intervention activities as required.
- the securing of any necessary, wider endorsement through the relevant governance forums.

4.2 Coherence and collaboration

To assure delivery of the Support Modelling and Analysis Strategic Outcomes we will adopt a coherent and collaborative approach across the DSE, engaging and working with key stakeholders in all areas, including current strategy owners, and current / future programmes. Figure 2 of this Framework highlights the integration complexity and stakeholder challenges that exist. The change interventions outlined in this Framework illustrate the coherent and collaborative delivery methodology that is planned.

Support modelling and analysis will not develop standalone data, digital or technological solutions, rather it will collaborate with current and future programmes to deliver Support modelling and analysis outputs.

By adopting this approach, we will reduce duplication of activities, delivery timescales and cost of implementation of the Support Modelling and Analysis Framework.

Table 1 below outlines the change interventions and an indicative list of stakeholders required to engage, endorse, and delivery the required inventions to facilitate a coherent and collaborative approach.

Table 1: Collaboration with Interventions

	MoD																	
	DE&S – LSOC	DE&S – Del. Teams	DE&S – ODF	SDA	FLCs	Assurance	IDO	EST	BMfS	Defence Digital	Finance	Commercial	Analysis	Data Strat Team(s)	Data Imps Team(s)	Others……	Industry	Academia
Change Intervention 1 **Establish a Support modelling and analysis planning and prioritisation framework** • Identify Stakeholders / owners to develop a process outlining the prioritisation criteria aligned with DSE requirements.	✓	✓	✓	➲	✓	✓	✓	✓			✓			✓	✓	✓	✓	
Change Intervention 2: **Review the end to end process of how Support modelling and analysis is delivered** • Develop and deliver a Support modelling and analysis Stakeholder engagement programme with the aim of increasing the knowledge and awareness of the end to end Support modelling and analysis.	✓	✓	✓	➲	✓	✓	✓	✓			✓			✓	✓	✓	✓	
Change Intervention 3 **Exploit and influence the developing integrated architecture and toolsets** • Ensure Support modelling and analysis and its users have the knowledge and understanding to exploit the Support integrated architecture and Support modelling and analysis toolsets – this will be actioned by a continuous programme of reviews / collaboration with BMfS & Defence Digital.	✓	✓	✓	➲	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

• Proposed Action - Investigate wider reviews across industry, academia, and others such as the MOD Analysis Function to capture good practice applicable to Defence.			✓	➲											✓	✓	➲
Change Intervention 4 **Inform data requirements and improvement** • Identify and engage with current data improvement projects and programmes. • Work with platforms deliver teams, industry, and data improvement teams to drive continuous improvement across MOD.	✓ ✓	✓ ✓	✓ ✓	➲ ➲	✓ ✓	✓ ✓	✓ ✓	✓ ✓			✓ ✓			✓ ✓	✓ ✓	✓ ✓	✓ ✓	
Change Intervention 5 **Identify the current and future ent to end Support modelling and analysis workforce requirements** • Review current Support modelling and analysis activity across the DSE - Identify current toolsets, resources including skillsets, roles and responsibilities and organisational structures.			✓	➲											✓	✓	

4.3 Secure resourcing and funding

A Support modelling and analysis framework team needs to be set up to oversee the change interventions and to monitor ongoing delivery of the Framework.

It may be possible to re-position existing resources to form part of a new Support modelling and analysis framework team, but it is likely that additional funding will need to be sought and there is a potential requirement for external assistance.[4]

The cost of the change interventions will also need to be considered; Table 2 highlights where collaboration with existing programmes would help to mitigate the requirement for additional funding.

Table 2: Funding Requirements

Interventions	**Existing resources / programmes / initiatives / funding**	**New funding requirements**
Management of Support modelling and analysis Framework	• Subject to further discussions, an element of the resources needed to support the oversight of the interventions will be resourced from DefSp setting up a small insight's teams. • Access to resources from current projects (e.g., IDO/BMfS/EST/DE&S). These programmes will have overlapping M&A requirements that could be part of a coherent approach.	• Additional post likely to be required to support the management the interventions identified. • Potential need for external assistance. • Resource constraints in Enabling Organisations may require a re-prioritisation of resources.
1: Establish a Support modelling and analysis planning and prioritisation framework	• Engagement with existing teams across the DSE.	• Minimal, potential need for external assistance. • Potential need for additional resources to support the teams engaged in current delivery of the relevant activity.

[4] This requirement will be explored and analysed further as part of the Stakeholder engagement.

2: Review the end-to-end process of how Support modelling and analysis is delivered	• Engagement with existing teams across the DSE.	• Potential need for external assistance. • Potential need for additional resources to support the teams engaged in current delivery of the relevant activity.
3: Exploit the developing integrated architecture and toolsets	• BMfS has the remit to deliver the Log IS transformation. This will include the environment and toolsets to enhance decision making, Asset Management tools. • EST may recommend the introduction of sensor type technology with associated data collection and analysis. • Defence Digital has introduced the Defence Data Analytics Platform (DDAP) which offers a number of services and environment for Support modelling and analysis.	• There are potential requirements that may be considered outside the current scope of existing development teams.
4: Inform data requirements and improvement	• Existing platform developments are enhancing current support data, for example KRAKEN in NAVY, VERITAS in ARMY. • Several published MoD Strategies reference the strengthening and exploiting data, these include DE&S MI Strategy 2021, NAVY Digital, and Data Plan 2022-2025, Data Strategy for Defence. • BMfS and EST delivery programmes will require data collection, cleansing and collation programmes - including environments for storage.	• Specific data requirement from 3rd Parties may require contract changes / additional contractual obligations. • Additional resources may be required for data collection, cleansing and collation where no existing programmes funding is identified.
5: Identify the current and future end to end Support modelling and analysis workforce requirements	• Engagement with existing teams across the DSE.	• Minimal, potential need for external assistance. • Potential need for additional resources to support the teams engaged in current delivery of the relevant activity.

5. High level delivery roadmap

Figure 7 shows the high level delivery roadmap for the Support Modelling and Analysis Vision, showing the timeline of the change intervention actions for the Strategic Outcomes by 2030 and alignment with DSS Intent.

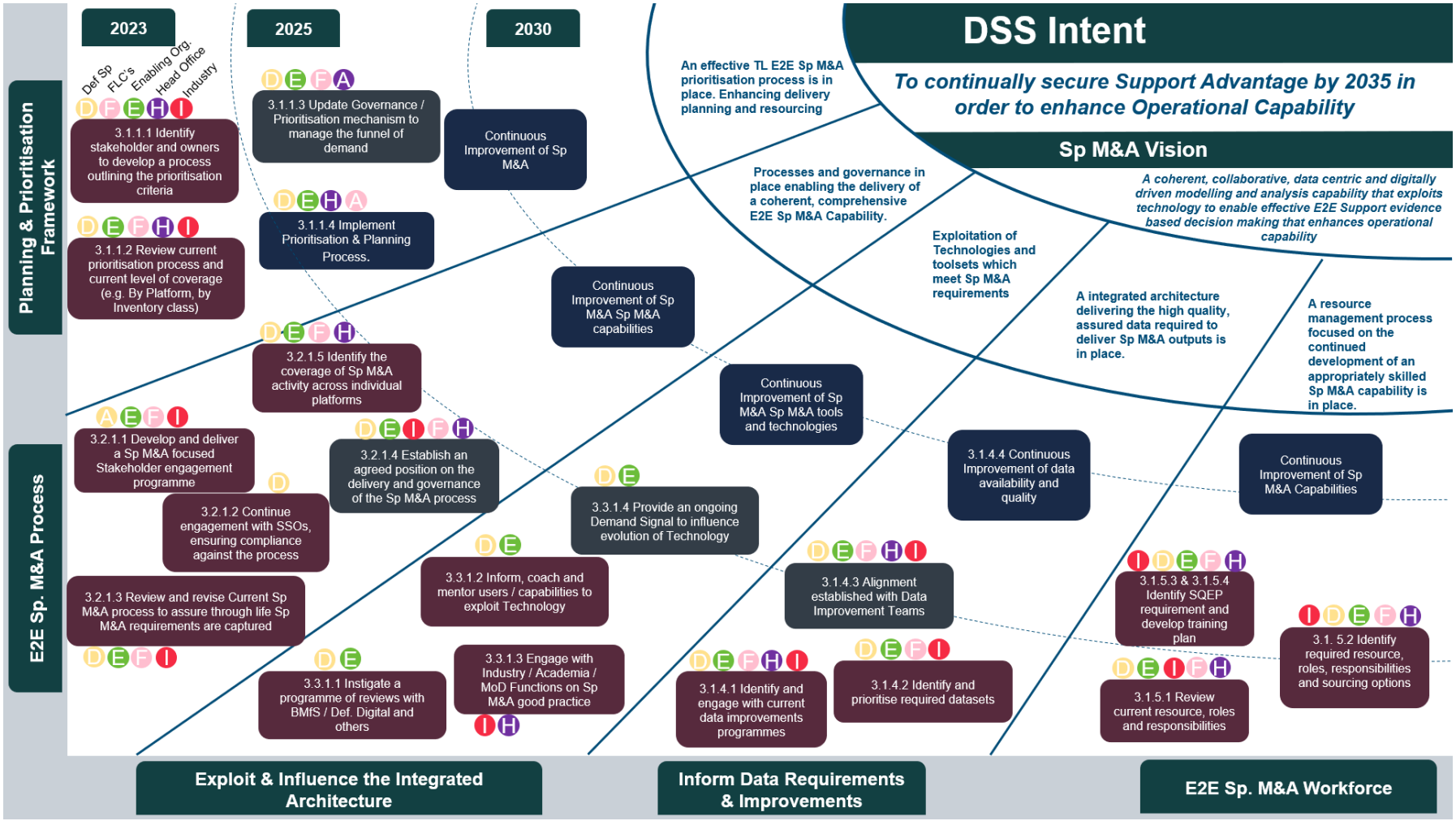


Figure 7: High Level Delivery Roadmap

6. Glossary

Term	Definition
ADW	Army Data Warehouse
AI	Artificial Intelligence
BAU	Business As Usual
BICC	Battlefield Integration Capability Centre
BMfS	Business Modernisation for Support
CADMID	Concept, Assessment, Demonstration, Manufacture, In-Service, Disposal
CDLS	Chief of Defence Logistics and Support
CI	Continuous Improvement
CIO	Chief Information Officer
DCP	Defence Command Paper
DDAP	Defence Data Analytics Platform
DACC	Defence Availability Capability Centre
DECC	Digital Engineering Capability Centre
DE&S	Defence Equipment and Support
DefSp	Defence Support
DefSp HLB	Defence Support High Level Budget
DefSp MP	Defence Support Major Programmes
DEFSTANs	Defence Standards
DIN	Defence Instruction Notice
DIO	Defence Infrastructure Organisation
Dir DefSp MP	Director Defence Support Major Programmes
DLF	Defence Logistics Framework
DLOD	Defence Line of Development
DLSG	Defence Logistics Steering Group
DOM	Defence Operating Model
DP	Defence Plan
DSE	Defence Support Enterprise
DSPB	Defence Support Performance Board
DX4D	Digital Exploitation for Defence

Term	Definition
E2E	End to End
EAP	Support Enterprise Architecture Practice
EST	Engineering Support Transformation
EWSS	Enterprise-wide Support Services
F&RP	Forecast and Resource Planning
FOfS	Functional Owner for Support
FLCs	Front Line Command
HLB	High Level Budget
HQ	Headquarters
IDO	Increasing Defence Outputs
ILS	Integrated Logistics Support
IR	Integrated Review
IS	Information Systems
ISMA	Integrated Support Modelling & Analysis plan
JSEs	Joint Support Enablers
JSPs	Joint Service Publications
JtSp	Joint Support
KID	Knowledge Information Database
KPIs	Key Performance Indicators
Log IS	Log IS Transformation
LTP	Logistics Transformation Programme
M&A	Modelling & Analysis
ML	Machine Learning
MOD	Ministry of Defence
NATO	North Atlantic Treaty Organisation
OPA	Oil and Pipelines Agency
PEx	Performance Excellence
RACI	Responsible, Accountable, Consulted, Informed
RAF	Royal Air Force
RMC	Raw Materials and Consumables
RN	Royal Navy
SDA	Submarine Delivery Agency

Term	Definition
SDSR	Strategic Defence and Security Review
SDW	Support Data Warehouse
SMEs	Subject Matter Experts
Sp M&A	Support Modelling & Analysis
SpOps	Support Operations
SQEP	Suitably Qualified and Experienced Personnel
SRO	Senior Responsible Owner
SSE	Support Solutions Envelope
TDI	Team Defence Information
TLBs	Top Level Budgets
TLM	Through Life Management
UKStratCom	United Kingdom Strategic Command
WLC	Whole Life Cost