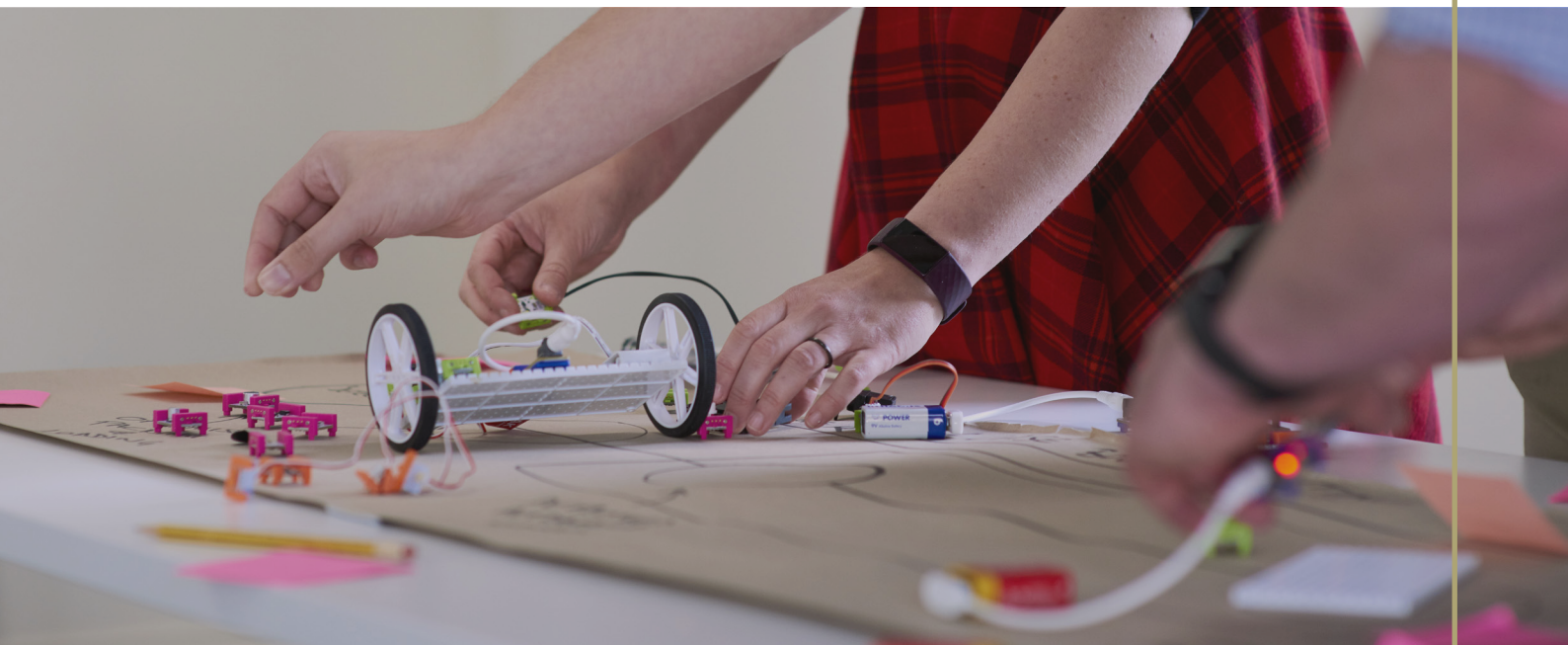


# FUTURES



**Arke Ltd**



Thank you  
for your interest in  
Arke – how can  
we help **you**?

## We simplify complexity to enable better strategic decisions.

Arke is a small independent SME consultancy based in Wiltshire. We provide our clients with independent and objective Research, Strategic Analysis & Decision Support services. Whether it's with strategic, complex, novel technology options or tough organisational challenges, we help you to make the right decisions.

Our mission is to make a difference – to our clients, our community and each other. We pride ourselves on delivering outstanding analysis expertise for our clients. We instil our values of being collaborative, innovative and agile in all our projects. This underpins our approach of working in partnership with our clients to fully understand all challenges and to determine how we can provide high quality, pragmatic, tailored, sustainable solutions.

1

## ABOUT US

We understand the benefit of experience, creativity and new ways of thinking.

Our highly professional team consists of people at all stages of careers from graduates through to recognised industry experts. This ensures we create teams that provide our clients with the right blend of knowledge and experience, innovation and challenging thinking.

## 2

## OUR TEAM



## OUR SERVICES

3

We made our reputation providing cost engineering and evidence-based decision support across Defence. As we have grown, we have expanded to support our clients across the public and private sectors with our **Cost, Decision Support, P3M, Business Analysis, Modelling and Simulation, Technology Design, Sustainability, Futures and Stakeholder Communications** services.

We work for UK and overseas public and private sector organisations. We have considerable experience of working with all tiers of Government departments and agencies, enabling our clients to get the best from novel and disruptive technology, maximising the value of research and better understanding barriers to change.

We have assessed options for satellite communications capability and technology. We have provided cost and benefits analysis delivering digital business and capability change in open systems architectures, communications systems and technologies. We have provided planning and analysis services for the development of novel technology concepts such as adoption of networked architectures, Edge processing and AI.

Our demonstrable track record of delivering responsive and innovative cloud and digital projects across our service catalogue has ensured we are a trusted supplier that offers high value for money for our clients.



If you need help to understand your challenges, assess your options and provide you with all the evidence you need to make the right decisions, please get in touch.

# 4

## AN OVERVIEW OF OUR SERVICE

Our Futures team is experienced in the design and delivery of a coherent Futures Intelligence service that enables our clients to explore and understand the emerging science and technology horizon in the context of a highly variable, complex, uncertain and ambiguous sociotechnical landscape.

We provide you with specialist knowledge in futures methodologies and a network of SMEs, combined with experience of delivering across broad technology domains and government organisations. This enables us to adapt our approach to meet your project needs and ambitions. We provide you with clear insights that can guide strategy development, policy decisions and investment of resource into the exploitation and employment of technologies.

Our team leverages a broad range of approaches, which can be combined in a piecemeal fashion to create a coherent analysis approach that fits your need and desired outcomes. By integrating our futures work with other offerings from across our portfolio of analysis approaches, we can ensure that our work is best positioned to deliver impactful results

Our service offerings include:

- **Generating an Evidence Base:** Literature Reviews, Horizon Scanning
- **Forecasting:** Technology Watch, Roadmapping, Trend Analysis
- **Feasibility Testing:** Market Surveys, Analysis, Wargaming
- **Communication and Engagement:** Rich Pictures, Facilitation, Workshop Design

5







We work with you to understand your goals and design and deliver a uniquely tailored solution that provides you with the outputs and benefits you need to achieve them.

“

Recent examples include:

**Technology Investigation and Mapping:**

This project was a research activity being conducted for our client to identify “Generation after Next” technology that could realise a step change in benefits. Arke’s role was to generate the qualitative and quantitative evidence to inform the case for further investment. We articulated the changes in state and associated benefits of each technology within a succinct Benefits Map. This collated all information in one graphic and was used to elicit effective engagement with technology providers and client stakeholders and formed the basis of selecting and prioritising options for further investigation. At a show case event we presented Rich Pictures and Causal Maps that highlighted challenges associated with future technology and ways of operating. We used these to communicate to senior stakeholders the future challenges they may face and the value of analysis now to design mitigations and realise improvement opportunities.

**Horizon Scanning and Concept Development:**

This live project looks to find, explore and develop weak sociotechnical signals into concepts with clear defence relevance for further research and evaluation. In collaboration with our client, we are applying futures thinking within a defence context, to lead the development of concepts from initial definition and prepare them for potential onward investigation. We are conducting research to establish maturity, shape the argument of relevance to defence and need for investment. We have provided analytical support across the concept pipeline, helping to manage the innovation pipeline portfolio with our client.

6

## OUR SERVICE IN DETAIL

### Literature Reviews

Arke has a wealth of experience in the design, conduct and delivery of literature reviews across a broad range of research and technology areas. Our review approach delivers a client-centred, repeatable methodology to literature reviews, intended to gather and analyse all available information within the review scope.

To ensure expectations are met, we engage with you on literature search strategy, including search terms, literature sources and analysis approach. We tailor methods to the area of interest which typically includes scientific database searches, qualitative and quantitative meta-analysis, trend and cluster identification and expert technical assurance. Review outputs will then be concisely summarised, employing engaging visual content developed with a focus on utility of the output to the end consumer.

The structured, repeatable and systematic approach to reviews will provide you with rigorous and reliable insight into depth and breadth of prior knowledge in an area-of-interest, to ensure that decisions and strategies are built on a strong foundation.

### Facilitation

Effective facilitation, which includes identifying and solving problems, handling conflict and guiding and encouraging an effective group dynamic, is essential for you to make the most out of your engagement activities.

Our Facilitation service enables all to have a voice by designing engagement events to support different communication styles – we underpin the design by generating clear rules of engagement including encouragement of constructive challenge. To encourage idea sharing, we have a variety of methods including story boarding, post-it notes, ideas by association, empathy mapping, observing users/interviews, use cases, prototyping, user-centred design, wargaming, anonymity tools (as examples).

Through our effective facilitation we generate insights efficiently and effectively, identify areas for innovation and improvement and support your team building.

### Horizon Scanning

Using a structured approach, Arke uses our experience to deliver expansive, evidenced based horizon scanning projects that can be used for technology or strategic roadmapping, area of interest identification and knowledge mapping, concept development, problem solving or SME community building.

In collaboration with you, the scope of the work is defined and the capability / topic area of interest is identified. Searches are then conducted based on a tailored, client-guided search strategy which includes variables such as sources (including HUMINT), time horizon (next gen / generation after next), stakeholders and appetite for breadth vs depth. From the search outputs, we employ a range of methods to explore potential insights, including knowledge mapping, cluster analysis review workshops and technology deep dives.

Our approach enables you to investigate future areas of interest in greater depth and to apply an integrated, rigorous and informed approach to futures intelligence.





## Rich Pictures

Arke has extensive experience in the use of rich pictures and visualisations to support project delivery. We generate Rich Pictures to illustrate your interrelated relationships. This typically represents a hand-drawn set of components and interactions across a complex system involving people, processes, equipment, infrastructure and challenges as examples.

This method provides you with a structured way of reflecting a variety of views while generating a consistency in understanding and is a particularly effective method to use when you have a diverse group of stakeholders to engage with.

This provides your projects with a tool to reduce risk in divergence, updating your stakeholders on the latest information quickly, reducing the risk of inconsistency in overall aims.

## Technology Roadmapping

Arke's approach to technology roadmapping is methodical, collaborative and actionable. We help you answer three fundamental questions - "Where are we now? Where do we want to be? How do we get there?", each of which is explored by conducting market intelligence, trend analysis, horizon scanning and technology watch research. Using this simple architecture as the foundation, we build a compelling narrative and build a coherent vision that will engage stakeholders and build understanding of global megatrends, emerging needs, system solutions / products and services to meet those needs, key milestones and critical enablers, barriers and dependencies.

With a focus on building roadmaps in collaboration - either face to face or virtually - we enable positive challenge, debate and vital relationship building between your stakeholders and participants necessary to implement plans. This collaboration is often as valuable, if not more, than the roadmap created at the end of the process.

## Market Surveys/Analysis

Our market survey methodology enables us to provide a comprehensive picture of the current and emerging landscape for your market of interest. Our work can help you quickly gain commercial intelligence by identifying, collating and presenting data on factors such as market size, the supplier ecosystem and key players, intellectual property activity, funding landscape, start-up activity and investment activity. At a more granular detail, we can help you understand and compare alternate products and services and identify universities leading market-enabling research.

Through conducting market surveying work, we can help you:

- identify suppliers of interest or potential competitors
- identify and compare alternative products and services
- compare and contrast sector activities between state nations
- understand the supplier ecosystem in support of pre-procurement research

To support the exploitation of market survey data and insight, we provide 'synthesis', 'concept development' and 'decision making' workshops, where we curate a multidisciplinary group to create and prioritise novel concepts, using market survey data as inputs and 'inspiration'.

## OUR SERVICE

8



## Trend Analysis

Understanding the trends and drivers affecting a sector, technology or part of society is a critical part of strategy development. By understanding how certain trends might change over time, you are able to translate these into assumptions and hypotheses about the future and figure out ways of testing, exploiting or even changing them.

A single point of information is a signal. A clustering of signals represents a trend. Trend analysis is the collation of disparate qualitative and quantitative data and the development of hypotheses as to how that data might change over time, potentially indicating a shift of some kind. Through our approach, we detect signals, collate these through a period of 'sensemaking' and start to gather hypotheses about how the future might play out should these signals coalesce – i.e. what trends might form. This analysis informs your strategic thinking, provides indications to support your decision making and highlights areas of opportunity or threat early so that you can take all needed action.

## Technology Watch

Arke have developed a robust and methodical approach to conducting technology watch activities, whereby we map the system of interest and then systematically scan the landscape for technologies, as defined by our client. By conducting such tech watch activity we are able to increase your understanding of the technology landscape, identify key organisations conducting research and help identify weak signals indicating the emergence of something potentially disruptive – either as a threat or an opportunity. Examples of signals include product releases, mergers and acquisitions, patent applications, new standards, policy changes or stated capability gaps.

In addition to desk-based research, we build your signal detection capability through conducting interviews with suppliers where required (e.g. if technical information is not available or is commercially sensitive). Our approach provides opportunities to establish an enduring capability, ensuring a future pipeline of findings can be generated efficiently whilst continuing to respond to emerging market trends.



## Workshop Design and Delivery

We have a wealth of experience in the design and delivery of in-person, digital and hybrid workshops. Our workshops are designed to be engaging, interactive and bring together a diverse community to create compelling outcomes and engaging outputs.

This can be used typically to support the following examples:

- Research synthesis and insight development
- Challenge framing
- Concept ideation and development
- Future worlds / scenario development
- Wargaming scenario testing ('Red teaming')
- Strategic and Technology road-mapping
- Prioritisation / decision conferences
- Project retrospectives / improvement events
- Systems mapping
- Process mapping
- Team building

We work with our client to define the scope of the workshop(s) and develop an approach to supporting research, generation of materials, organising logistics, identifying attendees, designing workshop flow, facilitating and delivering the workshop and preparing all emerging content.

This provides an important and valuable way of sharing information, generating new insights, creating tangible outputs and catalysing decision making needed to drive change.

## Wargaming

We understand that testing ideas/strategies/changes and their implications can be challenging. This is especially true when there are many moving parts, people, conflict and aspects to a system.

Wargaming gives our clients the opportunity to put its people at the heart of analysis: immersing players in a scenario that allows them to try out ideas and learn from the decisions they make.

A wargame provides players and analysts with a way to test, assess and learn about new ideas/strategies/changes. Our teams design, facilitate and support analysis of wargame events. When organisations consider new technologies, we find that wargames allow unforeseen problems and opportunities to be identified early when they otherwise would not be.

Our wargaming activities typically feature:

- Immersivity
- Adversarial testing
- People focussed
- Exploration of issues with experts
- Human in the loop simulation

This provides you with:

- Challenging test of plans, concepts and ideas
- Pace
- Experience making decisions
- No 'black box' analysis
- Change 'unknown unknowns' to 'known unknowns' or more.

To find out more about  
how we can help you  
please contact:

Jess Green, Director: [jgreen@arkeltd.co.uk](mailto:jgreen@arkeltd.co.uk)  
And visit our website: [www.arkeltd.co.uk](http://www.arkeltd.co.uk)

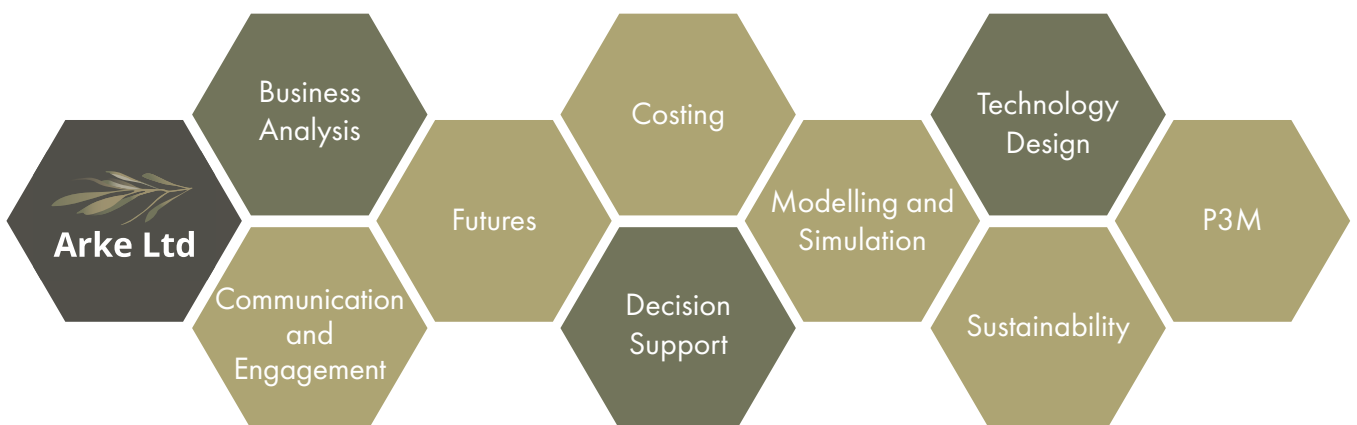
11

#### Company Accreditations

We are ISO9001 and ISO14001 compliant. We hold Cyber Essentials + and hold a Silver Award in the Armed Forces Covenant Employer Recognition Scheme.

#### Social Value

We are committed to the creation of social value through all aspects of our operations. As members of the Arke family, all staff are invited to engage and be part in the creation of social value as an integral part of their working life. We aim to create positive value for our clients and our community in all we do.



Arke offers a range of services to help you make the right decisions  
Details of all our services can be found by simply using the G-Cloud search facility.

© Copyright Arke Ltd, 2024

Arke Ltd Terms and Conditions: G-Cloud 14 Cloud Support. Arke Ltd uses the standard G Cloud 14 Call-Off Contract Terms and Conditions within the G-Cloud 14 Framework Agreement (RM1557.14).