



# Prepare for the era of constant competition



In the face of complex, fast-moving and broad interrelated threats, our governments and armed forces are striving to transform their ability to respond.

That's why they're looking beyond "joint" to Multi-Domain Integration – so they can 'sense, understand and orchestrate effects at the optimal tempo, across the operational domains and levels of warfare'. Central to this strategy is a drive for radically enhanced levels of integration and agility. As a consequence, the defence industry needs to rethink how we create the necessary capabilities that will support our customers' transformation.



...achieving [Multi Domain Integration] will change the way Defence operates and war fights, and how capability is developed.



**The Orchestration of Military Strategic Effects,  
UK Ministry of Defence (January 2021)**

Until now, our industry has been siloed. We've produced discrete capabilities to meet discrete needs. It's been effective, but it's now too slow and expensive to adapt to today's complex, interrelated threats. We're not set up to deliver the deep integration that our customers so desperately need. We need to change how we work so that the organisations we serve can transform how they operate.

## A new approach for the Defence sector

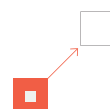
We believe that such radical change presents big challenges but even bigger opportunities. The defence and national security community is not, after all, the first to be calling for transformation.

From telecoms to transport, commerce to construction, software platforms and the ecosystems that evolve around them have transformed entire industries. They've allowed users and suppliers alike to adapt and thrive in increasingly complex, dynamic and unpredictable contexts. They've created new opportunities and value for suppliers and customers alike, and helped them all to respond to changing conditions quickly and efficiently.

Software platforms accelerate solution delivery and evolution by enabling the developers that use them to focus on producing innovative, user-specific content. By moving from a pipeline approach to a platform one, they free themselves from complex and expensive back-end processes – things like infrastructure, distribution and connectivity – that are crucial for their products to function but that don't differentiate their products from an end user's point of view.

They catalyse innovation by connecting developers to a broader choice of content providers and cutting the time to integrate new content and technologies. The ability to quickly compose solutions by combining content, technology and services from diverse organisations in novel ways not only enables things to be done better, it can also create entirely new capabilities, insights and operational effects.

The consistent experience of other industries suggests that a software platform approach to defence transformation is more than compelling; it is inevitable. What's more, it has the potential to benefit our industry as much as it benefits those responsible for ensuring our collective security and national resilience.





## Improbable synthetic environment platform and ecosystem

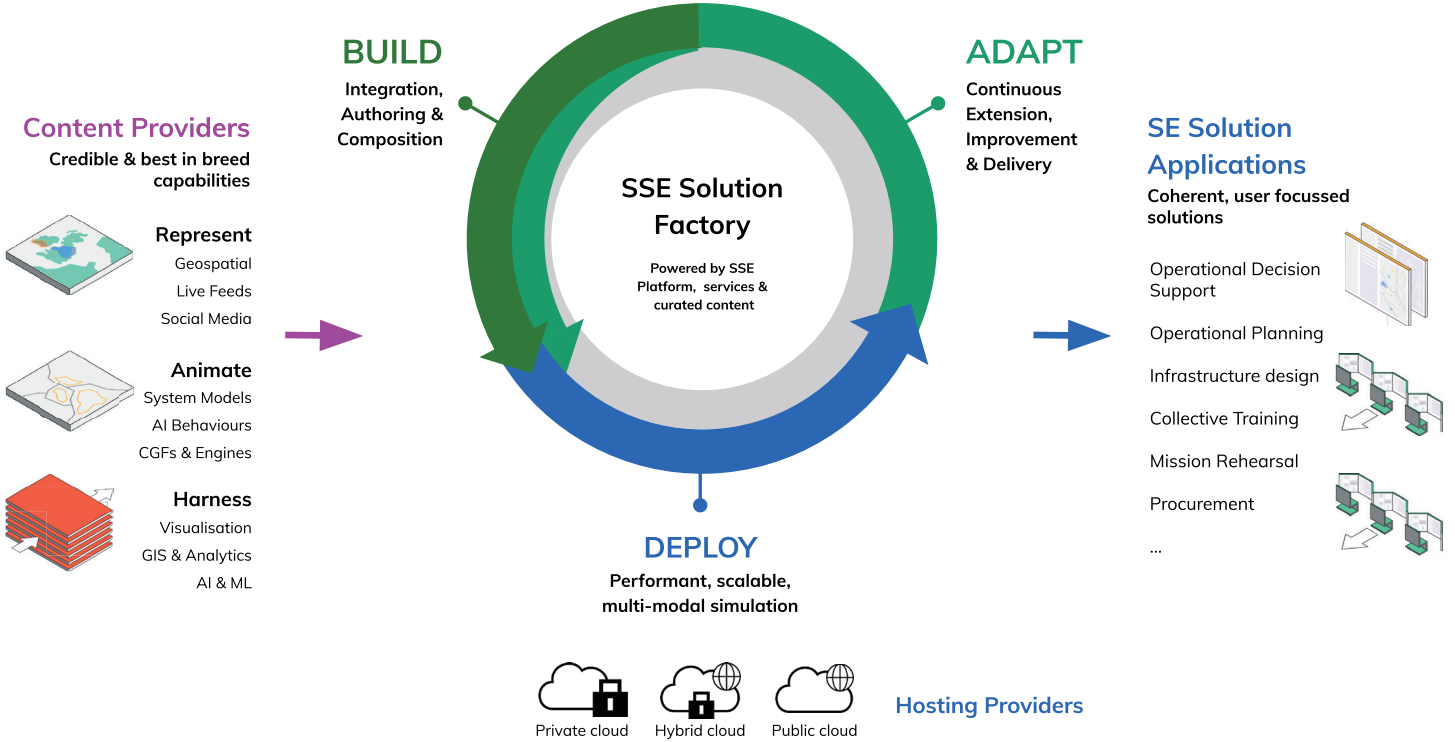
Synthetic environments (SE) deliver enormous value for specific defence needs, most notably Live, Virtual and Constructive (LVC) training. However, in adapting to hybrid warfare and multi-domain operations, militaries are demanding levels of integration, complexity and agility that go far beyond current capabilities.

In response, Improbable created its platform to offer a faster and more efficient approach to deploying a new generation of evergreen multi-domain, multi-function SE solutions - one that provides an inherently adaptable, evolving approach to modernisation by enabling legacy content to coexist with new and avoiding technological lock-in.

With a record of successful delivery in defence and government - including the Single Synthetic Environment Technology Demonstrator for UK Strategic Command - the platform is fueled by proven commercial technology derived from multiplayer video game development, and content and services from Improbable and an open network of technology providers across industry, academia and government.

SE developers and integrators can now leverage the same proven platform, supporting services and partner network to quickly compose multi-domain SE solutions using best-in-class technology and content, including their own.

The SE platform and open partner network offer mutual benefit for developers, integrators, content providers (whose models, simulations, data and applications bring SEs to life) and the end user.



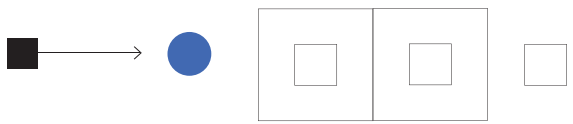
## For SE developers and integrators

Improbable's SE platform and supporting services de-risk and expedite the transition to multi-domain synthetic environments and enhance success.

Taking care of the complex underlying IT frees up resources to concentrate on advancing the offer instead of being tied down in the supporting IT. The platform architecture also reduces the impact of changes within the stack, reducing time lost to upgrades and cutting the time needed to integrate and operationalise new content and technology.

The ability to blend existing and new capabilities or run them in parallel extends the relevance and user base of existing solutions. It also affords organisations the flexibility to control and phase modernisation in a way that optimises resources and avoids disruption.

As a delivery partner, Improbable can provide a spectrum of services to meet any level of need at all stages from commercial and technical ramp-up, to content integration and verification to full SE solution provision.





### For content providers

Improbable's platform-enabled ecosystem opens access to a wider range of opportunities and commercial strategies, while reducing operational overheads including investment in building commercial and technical relationships with primes, as well as duplicative effort integrating content with multiple systems.

### For end users

The platform-enabled collaboration enables the step change in integration and pace of adaptation needed for multi-domain integration and operation.

## British Army - Transforming Collective Training

As part of its transformation programme, Improbable and its partners are helping the Army explore how best to update its training capabilities, build its Future Collective Training System, and maintain its competitive edge for decades to come.

The objective is highly realistic and immersive training experiences for infantry troops which brings planning, training and decision support together at the operational and tactical levels.



Accommodating thousands of users at the point of need, the programme aims to enable more frequent, economical and effective collective training.

## Summary

Our entire industry needs to change how we work so that the organisations we serve can transform how they operate. Software platforms and the collaborative networks they create have already transformed manufacturing and construction, commerce and entertainment. They allow users to explore new opportunities, respond more quickly to changing conditions, and build more agile, resilient organisations. We believe that they can - and will - do the same for our national security and prosperity.

## IMPROBABLE

### About Improbable's defence business

Based in London and Washington DC, we work across the NATO alliance and with a range of industry partners to transform planning, training and decision support for governments and their national security organisations.

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