



# FASTER

Community and Collaboration Charter



FASTER Community and Collaboration Charter  
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## FOREWORD

For decades, the scale and pace of pull through from Science & Technology into UK Defence capability has been hampered, not only by monolithic systems designs that cannot be upgraded piecemeal but also by contracting arrangements that deprive the Ministry of Defence (MOD) of freedom of action over the deliverables it pays for. Architectures that claim to be open, and that promise flexibility, have proved in practice to be closed, and to provide only rigidity.

The FASTER programme, sponsored by the Defence Nuclear Organisation and delivered to the Submarine Delivery Agency by Navy Digital, is demonstrating a different way forward. FASTER aims to build on the innovative spirit that traditionally characterises UK military operations, and that is needed more than ever today to counter new forms of threat. FASTER not only showcases an advanced Platform-as-a-Service concept that enables the loose coupling of small components (microservices) by insisting that they bring their own support for assurance, but also pioneers an equally modern approach to contracting by developing a supplier community that is collaborative, diverse, inclusive, and enabling of all Defence Lines of Development.

To engage with technology innovators across government, in academia, and from industry, FASTER has created a Community and Collaboration Charter. This Charter for the FASTER supplier community offers organisations of all types a new way to work with government and with each other. The result will be rapid insertion into military capability of technology that is not only sustainable and resilient but also antifragile. In the 21st century, Defence like other parts of society must do more than face up to change. It must learn to thrive on it. Suppliers who join the FASTER community will gain the chance to join MOD on that journey.

*D J M Doull*

**Rear Admiral Donald J.M. Doull**  
Director of Submarine Capability  
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## PREFACE

This Charter explains how the MOD programme Future Architecture for Submarine Technology to Enable RIOT (FASTER, where RIOT stands for Rapid Insertion of Technology) is establishing a high value supplier community.

To increase the scale and pace at which new Science & Technology (S&T) is delivered into submarine capability, FASTER is diversifying and expanding the Defence supplier base by engaging with technology innovators in organisations of all sizes and types. FASTER is a multi-year programme sponsored by the Defence Nuclear Organisation for delivery to the Combat Systems Delivery Team Innovation Hub of the Submarine Delivery Agency by Navy Digital.

A key aim of FASTER is to extend the range of organisations that contribute to Defence capability, not by excluding current suppliers but rather by adding new suppliers and creating an environment in which healthy competition can flourish across organisations of different sizes and types. By introducing modern best practices for community building, collaboration across boundaries, loosely coupled technology architecture, and Agile management, FASTER enables teams from MOD, other UK government agencies, academia, Small-Medium Enterprises (SMEs), and non-traditional Defence suppliers to compete on an equal basis with established prime contractors to Defence.

This Charter describes the vision underpinning the FASTER supplier community, its mission, the principles that guide the community, and how it works.

This Charter is available to organisations from MOD, other government, academia, and industry. It is separate to the Supplier Framework Agreement used by FASTER and is not legally binding. Suppliers to FASTER are required not to sign the Charter but rather to confirm that they have read it.

FASTER works with government agencies of friendly nations under existing MOD partnership arrangements. This Charter is available to such agencies.



# VISION

To develop innovative submarine Combat Management System (CMS) technology, MOD must have rights sufficient to enable freedom of action. Hence, FASTER is developing a MOD-owned development environment via which a broad base of innovative technology suppliers can participate in a fast-moving Agile DevSecOps <sup>i</sup> cycle to address capability requirements across all Defence Lines of Development (DLoDs).<sup>ii</sup>

Working with organisations across MOD, academia and industry is vital to achieving that aim. As well as playing a critical role in translating technology innovations into operational capability at scale and pace, a robust and collaborative supplier community enables government to thrive in the face of change. This community must adopt principles and practices that enable FASTER suppliers to operate effectively and efficiently.

# MISSION

To improve submarine capability, MOD must increase awareness and exploitation of technology innovations by making better use of skills, data, and other resources in all sectors. Creating a supplier community that has access to a fully featured development environment, and that collaborates effectively to use it, unlocks new insights and accelerates technology development while also creating social and economic opportunities for S&T institutions across government, academia, and industry.

As a development environment, FASTER provides suppliers with a containerised architecture for processing acoustic and other maritime data to inform and enable decision making. Suppliers can use this Platform-as-a-Service (PaaS) to contribute and enhance components in an evolving candidate submarine CMS. The PaaS makes available datasets and tooling that support and simplify the deployment and assurance of microservices.

Government agencies, academics, small businesses including new Defence suppliers, and prime contractors are encouraged to collaborate on upgrading the Technology Readiness Level (TRL) <sup>iii</sup> of individual components, helping take them from concept to operational usage. Through regular events, military operators test components and provide constructive feedback that supports further development. This demonstrates how adapting an app store model to the needs of Defence can increase the scale and pace of improvement to submarine CMS functionality, safety, performance, and security.

To generate deployable solutions from the FASTER PaaS, MOD must have freedom of action over the components it contains. Rather than allowing MOD to fund solutions over which it has no understanding or control, FASTER promotes a sustainable approach through open collaborative working. FASTER community members work together to exploit opportunities and tackle challenges via solutions that MOD is empowered to maintain and enhance. This clear and transparent programme of engagement allows FASTER to optimise capability demand and supply, which delivers concrete benefits to community members as well as to MOD.

## By optimising capability demand, FASTER:

- Makes it easier to develop submarine technology for MOD
- Ensures that vendor outputs address as wide a scope of submarine CMS as possible
- Ensures that submarine technology is supportable through life and open to enhancement
- Partitions capability demand to reduce security classification level where possible, as per the Defence and Security Industrial Strategy <sup>iv</sup>
- Encourages suppliers to identify to Navy emerging technologies applicable to submarines

## By optimising capability supply, FASTER:

- Attracts a wide landscape of technology vendors to work with Navy
- Identifies suppliers who may be able to contribute to new submarine technology
- Increases diversity and inclusivity among submarine technology vendors
- Encourages suppliers to identify to Navy emerging technologies applicable to submarines
- Shares with vendors Navy capability requirements to as to encourage innovative, collaborative thinking in submarine technology
- Showcases FASTER suppliers and their contributions to the FASTER platform
- Supports and expedites very rapid prototyping of new ideas for submarine technology

## By reducing the barriers for collaboration, FASTER enables greater numbers of suppliers to develop technical knowledge and experience within the underwater (UW) domain, giving them:

- Increased knowledge and understanding of UW focus areas, user needs, and capability challenges
- Access to funding for prototypes
- Access to data to enable rapid prototyping
- Ability to fail fast, from more frequent feedback from military operators
- Low cost, low effort engagement with MOD and other community members, in a productive environment where organisations of all sizes and types can meet and collaborate on an equal basis
- Opportunities to present new ideas and emerging technologies to MOD for consideration
- Being part of MOD's journey to a new and more collaborative working relationship with academic and industry

# PRINCIPLES

## **FASTER supplier community members are expected to:**

- Thrive on Change
- Work Well Together
- Be Inclusive
- Develop Trust
- Protect Security and Confidentiality

### **1. Thrive on Change**

Rather than seeking resilience, which treats change as a threat, FASTER aims for antifragility, seeing change as an opportunity for improvement. We adopt the Supercommunities model for antifragile communities. <sup>v</sup> Using an Agile, iterative approach we constantly ask ourselves the questions below, shaping and reshaping the answers to thrive on change.

#### **1.1. Understand Who We Are**

What brings the community together? What does it mean to identify as a member?

#### **1.2. Seek Challenges**

What issues can the community address?

#### **1.3. Sustain Capitals**

What natural, industrial, and human resources can the community draw on? How are capitals sustained?

#### **1.4. Develop Assets**

How can the community use its capitals to build assets? Who owns the assets? How is data on capitals and assets kept up to date? How are assets created, sustained, and improved?

#### **1.5. Engage Stakeholders**

How can stakeholders help the community address challenges?

### **1.6. Help Each Other**

How can community members help others? How are such contributions recognised?

### **1.7. Collaborate Effectively**

See 2 below.

### **1.8. Find Funds**

To whom do assets deliver benefits? Could other benefits be realised? How are benefits valued?

### **1.9. Own Our Data**

How does the community manage data, learn from it, and share it to build trust?

## **2. Work Well Together**

To be hyper-productive as a community, we ensure community members collaborate in an effective way. To help community members accept their responsibilities and those of others, make communications effective, recognise contributions, prioritise efforts, and adapt plans to events we adopt the Human Interaction Management model for structured collaboration, known as the five Cs – Commit, Communicate, Contribute, Calculate, and Change. <sup>vi</sup>

### **2.1. Commit**

Accept your own responsibilities and know those of your colleagues.

- Do you understand how to deliver the tasks assigned to you?
- Do you know who you are supposed to work with?
- Do you have the resources needed?
- Are your success criteria SMART (Specific, Measurable, Achievable, Realistic, and Time-bound)?
- Is there something you don't understand?

- Is there anything else preventing you from fulfilling your responsibilities, such as behaviour by a colleague?
- Hold yourself accountable for everything you do, down to the smallest detail - underwater, failure is not an option, so we cannot afford ever to be sloppy about anything, down to the smallest details such as spelling and grammar (NASA "tough and competent" mindset).

### **2.2. Communicate**

Communicate purposefully and effectively.

- Is a name, acronym, or concept unfamiliar to you? Then ask straight away - even in a meeting. You'll be surprised at how many other people feel the same. There's no such thing as a silly question.
- Don't feel obliged to respond to messages immediately or expect colleagues to. If you need to contact someone urgently, call (don't text) their mobile.
- For security, if someone joins a remote meeting from a number you don't recognise, ask who they are.
- In all communications, be calm, considered, and as brief as possible. If other people need details, they are expected to ask for them.
- Share material only if you are sure there are no security or sensitivity risks. If you are unsure about this, ask before sharing.

### **2.3. Contribute**

Share your own outputs and recognize those of your colleagues.

- Remember to thank people for the things they do, even the small things, both in private and in front of the team.
- If one of your outputs appears to be unused, don't assume it has been rejected. Ask your colleagues. Things get overlooked accidentally.

- If someone lets you down, talk to them privately before escalating it. Have you misread the situation? Have they? What is the root cause? Build trust, not the opposite.

### **2.4. Calculate**

Prioritise your time to achieve agreed objectives.

- Work on tasks according to the priority order agreed.
- If you're tempted to add bells and whistles, consult your colleagues first.
- Keep your tasks updated with progress.
- Choose which meeting invitations you Accept. Make judgement calls about how best to use your time to deliver objectives.

### **2.5. Change**

Stay aware of events and respond to them in a timely way.

- To make the most of valuable time in meetings, prepare what you plan to say beforehand.
- Do not pose a problem but request assistance with a solution - for example, if you think activities need to change, work out a possible way forward before the meeting.
- Be brief.

# PRINCIPLES

## 3. Be Inclusive

To establish a level playing field for innovation, FASTER promotes inclusivity, facilitating collaboration between innovators from differing backgrounds and between different sizes of organisation:

- Establish sandboxes, data sharing pilots, data challenges, and coding events such as hackathons to stimulate rapid innovation using shared data in secure environments.
- Encourage community members to engage with one another to find ways to use technology to promote innovation.
- Give innovators with different skillsets and areas of expertise access to capability planners in MOD.
- Share learning so that the whole community can benefit, providing feedback on what worked and what did not.
- Share methodologies, impact assessments, and template documents so that FASTER community members can build an online resource of trusted materials and practice.

## 4. Develop Trust

Trust among all stakeholders is essential for the success of any collaboration initiative which values open ways of working. For FASTER, trust means three things: Transparency, Ethics and Accountability.

### 4.1. Transparency

FASTER encourages:

- Using plain language wherever possible.
- Providing glossaries of specialist terms and explanatory resources.
- Adopting standards used by the UK government, MOD, NATO, and friendly nations.
- Identifying clearly which data and documents are confidential.
- Where new technologies are engaged, being open about the potential harms.
- Listening to suppliers and using their feedback.
- Keeping all community members informed.

### 4.2. Ethics

Ethics begins but does not end with legal compliance. For example, suppliers are expected to act responsibly with respect to commercially sensitive information they gain about other suppliers.

### 4.3. Accountability

Accountability is particularly important when it comes to public-private sector data collaborations, because of specific legal obligations to disclose information and record decisions, and because those decisions are more open to scrutiny.

FASTER encourages:

- Consultation with stakeholders, not just at the beginning of a project but throughout when important decisions are taken.
- Transparent assessments of risks and unintended impacts, for example, in relation to data sharing or use of emerging technologies.
- Keeping full and accurate records of decisions made and the reasons for those decisions.

### 5. Protect Security and Confidentiality

All community members are expected to safeguard personal and sensitive information exchanged within the FASTER community, using:

- Robust information security measures in line with industry standards to protect information where necessary and address commercial sensitivities.
- Rigorous data management techniques to ensure appropriate retention periods, access rights and data stewardship.
- Information sharing to enable innovation and collaboration while respecting security and including appropriate safeguards.





# COMMUNITY

## Engagement

Subject to security vetting, organisations of all sizes in MOD, industry, and academia that have relevant skills can join the FASTER supplier community. Supplier personnel may be required to have or obtain the necessary security clearance deemed applicable by the Authority for access to material designated to any security classification above OFFICIAL.

To ensure that suppliers in the community are as representative as possible of the diverse supplier landscape we wish to put in place, FASTER is reaching out not only to organisations already known to MOD but also to non-traditional Defence suppliers with relevant skills that may have an interest in using emerging technologies to develop military capability.

FASTER commissions paid work from suppliers using commercial frameworks that allow simple, rapid, and cost-effective contracting while ensuring that MOD retains the ability to exploit existing and emerging technologies to the full. The frameworks are used to tender small work packages with community members with the intent to move a component in the platform as a service up one or more TRLs. For all FASTER contracting, background IP introduced by a supplier or consortium is treated as foreground IP for the purposes of determining the Authority's rights. For details of background IP treatment in FASTER, see 7.5 below.

Any FASTER community member can apply to join the FASTER commercial framework. Acceptance is subject to meeting the prerequisites.

FASTER community members are commissioned to raise the TRL of specific components of the FASTER Platform-as-a-Service. Commissioning is Agile in the sense of fixing cost and time but letting performance vary. For example, FASTER may commission a supplier or consortium of suppliers to produce an Alpha version (TRL 5) from a concept (TRL 1) for a component, where the definition of the Alpha is produced

as part of the work.

To left shift testing, assurance, and accreditation of components, FASTER implements an advanced form of DevSecOps. All software deliverables include code that monitors not only functionality and but non-functional behaviours including safety and performance as well as security. Code that monitors non-functional behaviours is delivered as Service Mesh policies for automation by the FASTER PaaS in its CI/CD pipeline. <sup>vii</sup>

An aspect of all technology development under FASTER is early exploration of limiting DLoD concerns in relation to specific deployment avenues, as a sense check before committing resources, followed by ongoing re-evaluation as technology moves up through TRLs. To assist such evaluations, technology suppliers are required to articulate in bids the current and expected future dependencies of solutions that they propose.

## Laboratory Environments

The FASTER PaaS is accompanied by laboratory environments classified at SECRET and possibly also at OFFICIAL. These are physical spaces where the FASTER architecture is deployed to on-premises equipment, including a control room replicating that of a submarine (a Digital Twin of the future submarine CMS) along with spaces for briefing and collaboration. The FASTER labs are used to host some collaboration events with suppliers. Other events may take place at different locations such as MOD Whitehall.

## Collaboration Mechanisms

Collaboration events, held monthly and as needed, bring together a community of organisations to discuss the PaaS as it evolves, capability challenges, and technology opportunities. Events are physical sites at locations throughout the UK. There are also virtual, cloud-based activities. Collaboration events enable:

- Problem statements to be shared, prioritized according to strategic capability needs, with the opportunity to ask questions.

- Communication of procurement opportunities to win work, encouraging cooperation between suppliers.
- Suppliers to brief MOD on emerging technology opportunities and new ideas.
- Development of shared resources, enabling knowledge and skills transfer between MOD and other organisations
- Excitement that ignites ideas, through demonstrations of prototypes.
- Opportunities for military operator testing and constructive feedback.

Some collaboration events have wide attendance, with the understanding that any Intellectual Property (IP) that emerges from an event is owned by MOD. Other collaboration events have more limited attendance, with the understanding that any IP that emerges is owned by the attendees with sufficient rights granted to MOD to enable freedom of action.

FASTER helps suppliers in its community form consortia, temporary or permanent – i.e., suppliers of all sizes gain an easy way to work together. Cloud infrastructure is provided to support engagement not only between suppliers and MOD but between suppliers.

## Technology Proposal Evaluation

To assure components in an Agile manner, FASTER appoints specialised Decision Support Teams (DSTs) of Subject Matter Experts. DSTs are accountable to the Approving Authority for assurance, and conduct iterative evaluation of technology proposals along the following axes, known by the acronym ECHO:

- Effectiveness in delivering required capabilities for the funding requested.
- Compliance with non-functional requirements (performance, security, safety).
- Harmony with capabilities and interfaces delivered by other components.
- Opportunity for exploitation of new technologies and approaches.

## Intellectual Property

Many components developed by the community are produced using a single supplier, or consortium of suppliers, to take the component all the way from TRL 1 to TRL 9 – concept to capability. In such cases, the supplier or consortium may be offered ownership of the IP associated with the component, gaining the opportunity to reuse / sell the code elsewhere, subject to certain constraints, while MOD is granted rights sufficient to enable full freedom of action. To enable this freedom to be used in practice, MOD is provided by suppliers with complete designs, interfaces, source code (including of any component libraries), tests, test data, and documentation along with the ability to maintain, update, enhance, extend, and re-purpose source code without encumbrance. This ensures that MOD is empowered not only to do further work on a component itself but also to ask any supplier it chooses to do it.

There are also cases in which MOD wishes to retain ownership of deliverables, for example when a supplier or consortium is commissioned to raise the TRL of an existing component that they did not originally produce. In this case, ownership of deliverables is not offered, and any ownership by or rights of the original producer is not extended to cover such deliverables.

In no case is inclusion allowed in any deliverables of background IP (prior art to which the supplier or consortium reserves rights), except for background IP included in Commercial-Off-The-Shelf hardware such as graphics cards or hydrophones. If the supplier or consortium introduces any such background IP, it is treated as foreground IP for the purposes of determining the Authority's rights.

FASTER may in some cases recreate similar functionality to that delivered by background IP included in products currently supplied to MOD. In such cases, MOD may write to the holder beforehand to set out this intention and request feedback.

## LEXICON

Acronym	Meaning
CMS	Combat Management System
DNO	Defence Nuclear Organisation
DLoDs	Defence Lines of Development
DST	Decision Support Team
FASTER	Future Architecture for Submarine Technology to Enable RIOT
IP	Intellectual Property
MOD	UK Ministry of Defence
PaaS	Platform-as-a-Service
PET	Privacy Enhancing Technology
RIOT	Rapid Insertion of Technology
S&T	Science & Technology
SDA	Submarine Delivery Agency
SMART	Specific, Measurable, Achievable, Realistic, and Time-bound
SME	Small-Medium Enterprise
TRL	Technology Readiness Level
UW	Underwater

## REFERENCES

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