



CONFLICT ARMAMENT RESEARCH

Systems and Analytics Division

Document Name:	Terms of Reference
Tender Name:	Data Visualisation and Analytics Solution (DVAS)
Project Title:	Provision of a secure data visualisation and analytics solution to support CAR's analysts leverage its data on the trafficking of conventional and unconventional weapons, ammunition and related materiel into conflict-affected areas.
Tender Code:	CAR_iTrace III_2018_002_DVAS
Tender Dossier:	http://www.conflictarm.com/vacancies/

Terms of Reference

1. BACKGROUND INFORMATION

1.1. Contracting Authority

Conflict Armament Research (CAR)

1.2. Contracting Authority background

CAR is the only organisation exclusively dedicated to tracking the supply of weapons and related materiel on the ground in the world's conflict-affected areas. It does so with the objective of halting or restricting the most destabilising illicit weapon supplies into armed conflicts by enhancing arms export regulations, supporting law enforcement interventions, or by guiding military efforts to close down illicit supply routes.

In all cases, these measures require identifying precisely where, and under which circumstances, weapons are 'diverted' from the custody of lawful users (i.e. government forces) into the hands of illicit users (i.e. terrorist organisations). Addressing this global problem requires understanding its mechanics in precise detail. To do this, CAR:

1. Sends teams of investigators into armed conflicts to photograph and record evidence from thousands of weapons which have been captured or seized from insurgent or terrorist groups;
2. Works with governments to trace each weapon's supply route retroactively. This is primarily done by using sales and export records to reconstruct a weapon's physical path from the place of manufacture to the place of recovery. Then CAR identifies which users had possession of it at each stage along the route (the chain of custody), and who along the route *diverted* the weapon from legal to illicit uses—defining where, when, and under what circumstances the diversion occurred.

3. Aggregates thousands of such routes—and all changes of custody along them—to generate comprehensive global data on where, when, how, and in what numbers weapon diversion occurs.

CAR's rationale is simple: Only 'on the ground' investigations allow for the physical examination of materiel, which is necessary to identify it definitively and confirm its chain of custody. This standard cannot be achieved remotely through news, social media, or other third-party reporting. Aggregating multiple, verified diversion cases is the only way to quantify global weapon diversion trends and guide effective counter-diversion policy.

iTrace® is CAR's flagship product and, in its current form, provides the essence—but not the ultimate goal—of its plans to manage, analyse, and visually present its data (visit: www.itrace.com).

1.3. Contracting Authority's goal

CAR is a rapidly changing organisation; in terms of the scale of its operations (deployed in more than 25 major conflict zones), its degree of expertise, and its use of new technologies. It is therefore critical that CAR adopts a future proof approach to the way it manages and analyses complex data and how it presents that data, visually, to policy makers and other stakeholders. CAR has three guiding principles in its search for more efficient, analytically useful, and visually engaging data solutions:

Pattern identification is the first stage to understanding illicit weapon supplies: CAR needs to be able to quickly enter data on 100,000s of weapons, sometimes 1,000s documented at a single site on the same day, and for a data management system to flag any commonalities across multiple variables. Commonalities of interest vary widely, ranging from sharing a point of transfer to the style of erasing serial numbers. CAR requires data systems that can identify commonalities across geo-referenced, relational data with detailed attributes to enable it to identify potential avenues for further investigation on a rolling basis. Understanding, and automating the identification of, complex patterns within the dataset is critical and is a priority in CAR's planning.

Dynamic visualisations for presentations, navigation, and analysis: CAR documents weapons 'on the ground' in armed conflicts and plots each weapon's complete supply chain—from the place of manufacture to the place of recovery. These approaches utilize the presentation of collected visual evidence (forensic-grade photographs, videos, or 3D scans), documentation of technical attributes, and plotting an items chain of custody. For these reasons, CAR also needs the capacity to select data plotted on maps using freeform polygons, select key variables, and instantaneously plot it on graphs, pie charts, and other graphical data representations, and vice versa, through dynamic dashboards. CAR has prioritised these features in its future planning.

Visual beauty and sophistication across multiple media outputs is critical: CAR prides itself on visual consistency and impact—and hence stable and powerful branding—across multiple print media and electronic outputs. CAR sees the 'wow factor' in visual outputs as increasingly critical in its engagement across its outreach platforms. For these reasons, CAR envisages systems which can provide 'touch of a button' solutions for: playing chronological weapon route data geospatially across maps; switching between data visualisations (maps, charts, and tables) during live presentations; providing quickly configurable, creating restricted access 'dashboards'

to clients; and providing instant, high-end visual outputs (maps and charts exported to high-res JPEG) at the click of a button to news media outlets and other consumers. One of CAR's goals is to use a solution where any staff member can, via a single user interface, and without external assistance, produce outputs with a sense of technological sophistication and up-to-date visual presentation.

2. OBJECTIVE, PURPOSE & EXPECTED RESULTS

2.1. Overall objective

The Contracting Authority is issuing two parallel Calls for Tenders: 1) a data management solution and; 2) a data visualisation and analytics solution. While the calls for these two solutions do not explicitly overlap, the Contracting Authority views them as fundamental parts of a singular tool to support its ability to combat the trafficking of weapons and related materiel into conflict-affected regions around the world. It is a priority that both solutions integrate effectively.

The overall objective of this procurement is to:

1. Acquire a data visualisation and analytics solution.
2. Receive training on the solution.
3. Receive advising services on the Contracting Authority's analytical approach.
4. Integrate the data visualisation and analytics solution with the selected data management solution.
5. Utilize the solution to develop restricted access portals to dashboards for clients

2.2. Purpose

The purpose of this contract is as follows:

- Integrate a data visualisation and analytics solution that fits the Contracting Authority's needs and requirements.
- Improve CAR's ability to use the solution to leverage its unique dataset.

2.3. Results to be achieved by the Contractor

List in chronological order:

1. Data visualisation and analytics solution made available to the Contracting Authority personnel.
2. Integration of data visualisation and analytics solution with the data management solution (solution TBD).
3. Conducted trainings (general and technical staff).
4. Completed configurations and third-party plug-ins integration (if applicable).
5. Create restricted access portals to dashboards for clients
6. Provided advisory services to CAR's analytical team on its approach.

2.4. Deliverables overview

Provide the Contracting Authority with a data visualisation and analytics solution, integrate the solution with the data management solution chosen by the Contracting Authority, provide trainings on the solution, advise the Contracting Authority on its analytical approach regarding

the solution. Tenderers are advised to review document '1.5_Data_Management_Overview_DVAS', the Contracting Authority's website (www.conflictarm.com), the iTrace® portal (www.itrace.com), and its publications before preparing their tender. Unit quantities relating to each deliverable can be found in Section 4: Requirements.

2.5. Specific work

2.5.1. Data Visualisation and Analytics Solution

The Contracting Authority is a field-based research organisation whose core missions are centred around the data it collects from conflict-affected environments around the world. As a result, the stability, logic, and user friendliness of the data visualisation and analytics solution used to enter, store, query, and retrieve the data it collects is a primary component of the Contracting Authority's ability to achieve its mission.

The Contracting Authority is seeking to integrate a robust, process-oriented data visualisation and analytics solution to improve the organization's ability to:

1. Utilize a stable data visualisation and analytics solution.
2. Produce and export wide variety of high-quality data visualisations, including geospatial and network maps, based on filters and queries.
3. Navigate the dataset using dynamic visualization options.
4. Customize and share interactive dashboards.
5. Run robust and insightful attribute-, location-, and association-based queries and filters.
6. Utilize analytical tools and approaches, such as social network analysis.
7. Highlight previous unidentified clustering and other patterns.
8. Access visualisations and dashboards from a mobile device.
9. Provide access internally-designed dashboard views to clients through external portals.
10. Maintain high-level data security standards.

2.5.2. Training

The tenderer will need to provide both live training and training manuals to empower the Contracting Authority personnel to maximise its benefit from the solution. Live trainings can be in-person, remote conference call, or both. The proposal pricing should be inclusive of these costs.

Topics that should be included in the training for all the Contracting Authority's staff (15 users):

- How to navigate the system
- How to query and filter data
- How to produce visualisations
- How to generate dashboards
- How to generate reports

Topics that should be included in training the Contracting Authority's technical staff (10 users):

- Basic system administration
- Basic user management
- Basic system management
- Administration of external restricted access portals for clients
- Customisation of features, such as report templates
- Customisation of complex search tools

2.5.3. Setup

The tenderer will need to integrate its solution with the data management solution which the Contracting Authority's will as part of the parallel Call for Tenders. The tenderer should outline its process for integrating with common data management systems in its proposal and include this component in the timeline.

2.5.4. Support

In addition to the solution, CAR will require professional services support in two main areas: customising and/or developing relevant features to add value to the solution and advising CAR on ways to adjust its process to further strengthen its data and the solution's ability to leverage it.

It is recommended that potential tenderers carefully review the evaluation criteria, supporting documentation and information on CAR's website to identify areas where customisation and/or development of the solution could add significant value. CAR encourages tenderers to highlight these areas for adding value through customisation and/or development in its proposal and include the costs for this development in the pricing.

CAR intends to consult the tenderer on how it can continue to improve its approach to data, both in general and specifically regarding its solution. This could include advising on topics such as, but not limited to: data modelling, dashboard creation, record associations, lexicon structuring, and hardware procurement. Please include two working days of advising in the pricing component of the proposal.

2.5.5. Project management

The project management of the deliverables will be overseen by the Contracting Authority's Systems and Analytics Division. The management of the project will be overseen by the Contracting Authority's Systems and Analytics Division. The tenderer will collaborate with the responsible body to finalise the workplan. Additionally, the tenderer will submit all progress reports to the responsible body for review and comment.

3. LOGISTICS AND TIMING

3.1. Start date & Period of implementation of tasks

Implementation of the contract will begin immediately after the countersigning of the contract. The intended start date is 15 December 2018 and the period of implementation of the contract will be 12 months from this date. This date may change due to changing timelines during the procurement process.

The Contracting Authority encourages tenderers to propose developments to existing solutions which would add value towards the organisation's specific needs. If developments through configurations or third-party plug-ins (as outlined in document '1.4_Evaluation_Criteria_DVAS') are proposed in the technical proposal, the tenderer must be able to complete these developments within 90 days of the contract implementation date.

The contractor's performance against the terms of the contract will be assessed regularly by the Contracting Authority at mutually agreed milestones. The Contracting Authority will perform a formal assessment during the ninth month of the contract with a decision whether to renew the contract with the contractor. The Contracting Authority reserves the right to renew the contract with no contest if the contractor's performance is found to be satisfactory based on the terms of the contract.

4. REQUIREMENTS

4.1. Current Environment

The Contracting Authority's incumbent database solution tenderer utilises a Microsoft SQL Server 2012 relational database. At present, the database has approximately 80,000 records across all entities which require approximately one (1) Terabyte (TB) of storage capacity. Projections predict that the record volume will double (160,000 records) and the storage requirement to quadruple (4 TBs) within one year of implementation following the contract award.

4.2. Hardware and Software

The Contracting Authority uses a mix of Windows-, Android-, and Apple-based devices and operating systems. It is preferred, though not required, that the solution is compatible across different operating systems for both computers and mobile devices such as smartphones and tablets.

4.3. Pricing Requirements

The Contracting Authority advises tenderers to use the following figures to generate their financial offers:

Unit	Amount
User license	15 users
External view user license (customer view)	60 users
User training (internal)	15 users
Technical training	10 users
Professional services (advising)	10 working days

4.4. Other experts, support staff & backstopping

The costs for backstopping and support staff, as needed, must be included in the tenderer's financial offer.

4.5. Facilities to be provided by the Contractor

The tenderer shall ensure that its employees are adequately supported and equipped. It must ensure its employees are paid regularly and in a timely fashion.

4.6. Equipment

No equipment is to be purchased on behalf of the Contracting Authority as part of this service contract or transferred to the Contracting Authority at the end of this contract.

5. REPORTS

5.1. Reporting requirements

The contractor will submit the following reports in English by email to a point of contact as specified in the contract:

- Monthly reports - updates on progress towards agreed deliverables during the first six months.
- Development reports – progress reports specific to configurations included to address technical criteria.
- Quarterly reports - updates on product developments and developments scheduled for the next round of updates.
- Technical support report – summary of all technical support tickets submitted and their resulting actions with resolution times.

The reports referred to above must be submitted to the Systems and Analytics Division. The division is responsible for approving these reports.

Reporting and other requirements will be addressed in more detail during the contract drafting phase of the procurement process.

6. MONITORING AND EVALUATION

6.1. Definition of indicators

The evaluation criteria provided in document ‘1.4_Evaluation_Criteria_DVAS’ of this tender dossier will serve as the foundation for the tenderer’s performance indicators. The specific indicators, and the process of monitoring and evaluating the contractor’s performance, will be outlined explicitly in the Service License Agreement (SLA) at the beginning of the contract drafting phase.