

# IP EVALUATION AND VALUATION STUDY

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EXECUTIVE SUMMARY AND BRIEF

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## EXECUTIVE SUMMARY – IP EVALUATION AND VALUATION STUDY

This Study aimed to develop lean and appropriately customizable Intellectual Property (IP) management modalities that:

- can be fully integrated into acquisition and product support strategies; and
- can acquire only the necessary deliverables and license rights at the appropriate time to secure DoD's interests throughout the product life cycle.

IP evaluation and valuation research was conducted through complementary projects:

- a literature review that established baseline historic, existing, and emerging IP acquisition Multi-service Tactics, Techniques and Procedures (MTTPs) with regard to technical data and computer software;
- interviews with subject matter experts; and
- projects such as an IP Workshop and the development of a systemigram.

Information from each project was studied to determine impinging and mitigating factors for tension points between the Government and Industry. It became clear as work proceeded that there would be little access to actual negotiated contracts. This made untenable achieving deliverables regarding contracting involving IP and making specific recommendations regarding MTTPs. The focus was shifted to criticality of certain issues in the IP acquisition process. Among the recommendations generated from the research:

- **Focus on Valuation**—Development of metrics-based assessment of IP acquisition effectiveness should be a next step for the DoD.
- **Develop appropriate expertise for negotiations and related workforce education**—Research is needed into providing acquisition professionals with experience and training programs to bolster application of IP valuation in the evaluation process and negotiations. The DoD could consider creating a group of subject matter experts with technical expertise and established experience in evaluating and valuing technology and embed these in acquisitions that require IP valuations.
- **Use flexible contracting vehicles when possible**—The use of non-DFAR contracts such as Other Transactions Authorities (OTAs) and the Commercial Solutions Offering (CSO) should continue to innovate the DoD eco-system. It is recommended that the Defense Acquisition University (DAU) and Federal Acquisition Institute expand guidelines and training for use of OTAs and CSOs. The innovative Digital IT Acquisition Professional (DITAP) training program should be scaled and made more available.
- **Incentivize small company and nontraditional commercial engagement with the Government**—The task's literature review and interviews highlight the need to examine and address: the gap between the Government's budget-approach business model and Industry's profit-approach; deficiencies in the Government's requirement to use off-the-shelf products; its negotiations for products and technologies; and its not keeping pace with the increased importance of IP rights and protection.
- **Address impediments created by an ensconced culture**—Quantifying the impact of acquisition processes that deliver no or little innovation or technological advantage will be critical in changing leadership and workforce attitudes. Cultural change can also be driven by appropriate training and professional education for both acquisition program managers and leadership, and an emphasis on the importance of continuity in the DoD and IP acquisitions community.



## BRIEF – IP EVALUATION AND VALUATION STUDY

### 1.1 METHODOLOGY

#### 1. Literature Review

The IP Evaluation and Valuation Literature Review: Past, Present and Emerging Trends (attached as Appendix A.1. with the Final Technical Report) is based on:

- literature reviews that included generally available literature and available guidance from the services, FARs and DFARS; and
- information gathered from more than three dozen interviews with subject matter experts from Industry, the Department of Defense (DoD) and academia.

The literature review aimed to understand current DoD approaches to IP acquisition, particularly technology and associated data rights and software, in order to:

- establish a baseline of existing MTTPs in general;
- identify emerging MTTPs; and
- focus on challenges or areas that called for additional research.

#### 2. Interviews of Subject Matter Experts

A set of interview questions (attached as Appendix C.1. with the Final Technical Report) was prepared to identify themes and issues that interviewees felt were critical and/or remained unaddressed in the DoD's IP acquisition process. Notes from the conversations were provided to collaborators at Stevens Institute for thematic mapping and systemigram development work that identified specific problem statements, desired outcomes determination and paths to achieving outcomes. Outputs of the interviews include interviewees' recommendations as well as qualitative data that together with the literature review contributed to the systemigram work.

#### 3. IP Workshop: Intellectual Property Valuation in the Defense Acquisition Process ("IP Workshop")

Prompted by the importance of the AIRC Acquisition Innovation Forum program, the team proposed an IP Workshop focused on valuation as related to the DoD's acquisition of IP and based on:

- the interviews, which often articulated a divide between industry and the DoD regarding the importance of valuation in the acquisition process; and
- awareness that valuation had different meaning for the two stakeholder groups.

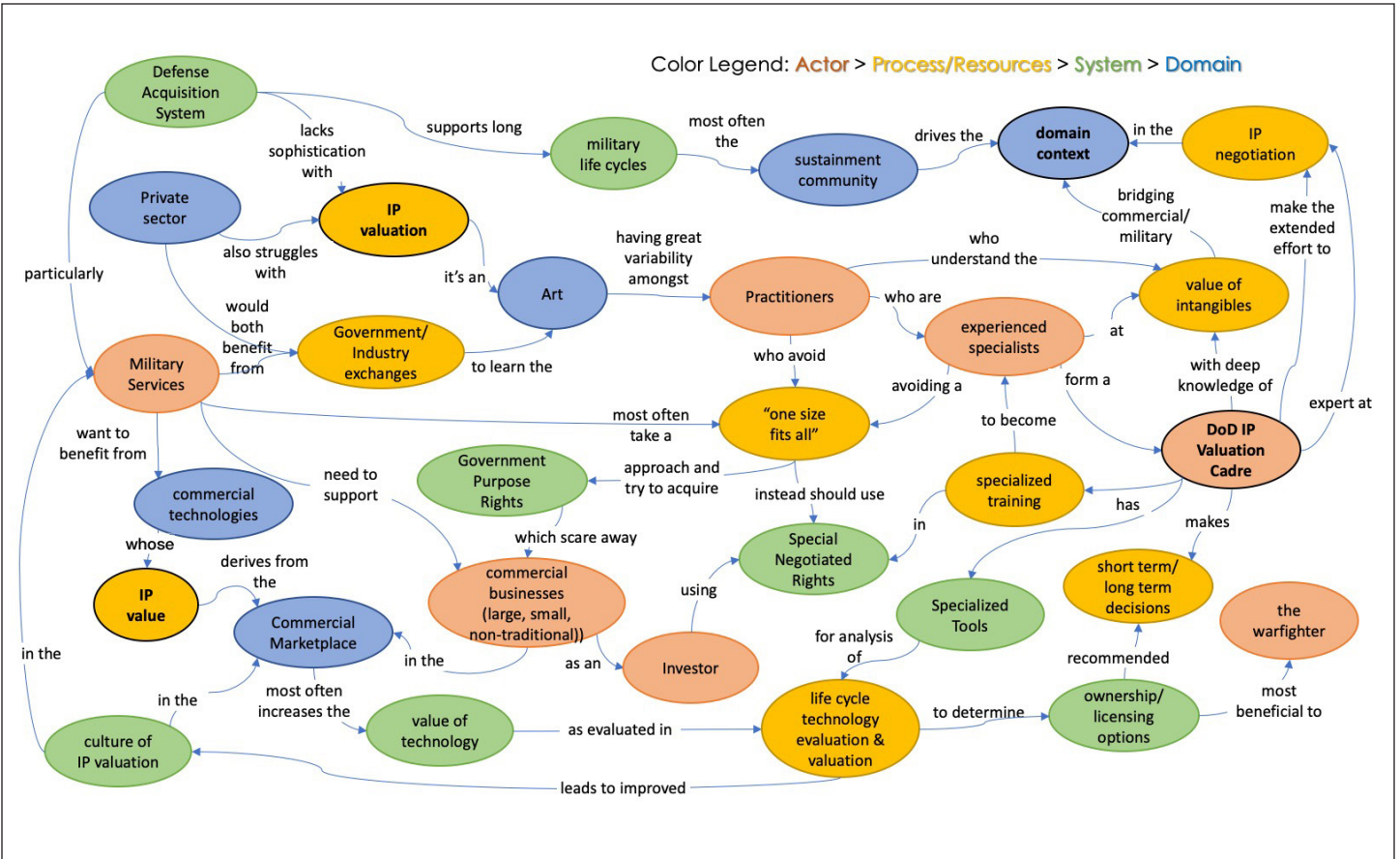
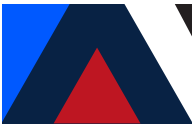
Questions arose regarding "how to", "when to", and "if to" include detailed valuation in the evaluation process and led to exploring whether incomplete or improper valuation procedures impeded the DoD's assimilation of innovations and its global competitive stature. The IP Workshop outputs are included in the systemigram analysis.

#### 4. Valuation/Metrics/Innovation Paper

A resulting white paper served as a second literature review that draws on interviews and the IP Workshop and aimed to draw the relationship among metrics, valuation methodology and innovation. It is currently an in-progress draft version (attached as Appendix A.2. with the Final Technical Report).

#### 5. Systemigram Development

Georgetown has been working with Tom McDermott (co-Primary Investigator on the overall contract from the DoD to AIRC) from Stevens Institute of Technology to develop a systemigram focused on the connectivity of themes/concepts supporting the importance of IP Valuation and the proposal of a Valuation Corps. (see figure on next page)



Systemigram supporting the importance of IP Valuation and the proposal of Valuation Corps.



## 1.2 IDENTIFIED TENSION POINTS AND IMPORTANT STUDY OUTPUTS FROM THE LITERATURE REVIEW

The following conclusions, in no specific order, anticipate recommendations that may be useful to improve IP acquisition and innovation by the DoD.

- A vehicle for making announcements to reach small business and non-traditional companies that are not routinely using SAM.gov may be beneficial.
- Alternative methods for negotiating IP rights outside of the FAR, such as Other Transactions Authorities (OTAs), and new legal remedies could mitigate the hesitation of small business and non-traditional organizations to contract with the Government but these alternative methods must be carefully managed.
- Technical specialists (specifically but not exclusively, engineers, valuation specialists, and IP attorneys) with an understanding of the long-term needs and proper negotiation of requisite IP rights must be involved early and throughout the life-cycle of the program to avoid overpaying, vendor lock, or missed opportunity with regard to long-term life-cycle maintenance.
- Lack of education and training and a cultural default to traditional FAR-based contracts may be deterring contracting managers from pursuing more flexible negotiations and attractive tools already in the DFARS, such as Specifically Negotiated License Rights (SNLRs).
- Consider other strategies that facilitate contracting flexibility and foster collaboration, innovation advancements and customized approaches to data rights and intellectual property protection throughout a system's life-cycle, such as CSOs, CRADAs, and Escrows.
- Emphasis on the importance of continuity in the DoD and IP acquisitions community is needed for the individuals assigned to those tasks to understand more effective valuation and evaluation techniques and methods and drive the cultural change needed for continued improvement and innovation.
- With technical data and intangible assets being increasingly important subjects of valuation, repositories are needed to apply more sophisticated quantitative models to assess value more consistently, as well as appropriate training or standard practices.

## 1.3 VALUATION AND INNOVATION AS STUDY CORNERSTONES

Research, interviews and outputs from the systemigram project highlight that successful IP acquisition negotiations rely on mutual understanding between the IP provider and the DoD regarding what each anticipates from the negotiation and how each values the IP. Commercial IP valuation methods may provide adaptable models for DoD IP acquisition valuation purposes. Based on their business models and the importance of their proprietary IP, small and innovative companies are likely to walk away from doing business with the Government if pushed too far to relinquish rights. Issues surrounding acquisition workforce training and education are critical to enabling improvements in contracting for IP acquisition.

Extremely important are cultural issues, such as making both the Government and innovative companies aware of each other's needs and perspectives. Strategic defense capabilities are evolving toward software and technology, driving the need for access to the latest innovation. Valuation should facilitate this migration from hardware to systems/software and focus on the IP rights needed for each pilot program and each program phase.

Recommended steps toward a more agile process that supports ongoing cybersecurity risk assessment and management to facilitate implementation of the latest technology include:

- 1) *Develop an innovation mindset*<sup>1</sup> that incentivizes innovative companies; and
- 2) *Obtain decision-making leadership buy-in* to support adoption and implementation of innovative approaches.

<sup>1</sup> See Melissa Flagg and Jack Corrigan, *Ending Innovation Tourism: Rethinking the U.S. Military's Approach to Emerging Technology Adoption*, CSET Policy Brief (July 2021)



## 1.4 DISCRETE RECOMMENDATIONS FROM THE STUDY OUTPUTS

### Overall impressions from the study outputs useful to set the stage:

The relationship between the Government and its contractors is challenged by the: increased gap between Industry's profit approach vs. the DoD's budget approach; requirement of the Government to utilize off-the-shelf products; deficiency in effectively negotiating for these products and technologies; and, overall, increased importance of IP rights and protection.

The current DoD technology acquisition process is highly complex and lacks standardized acquisition processes, data tracking tools, use of performance indicators and training requirements for program managers, all of which drive variability in the results of the different programs and complicate the acquisition professionals' role. Making effective practices and processes from each service and industry models available across the services will be important.

There is no standard certification, or curriculum, to qualify a person as an acquisition professional within the Government. Research is needed into optimum ways to provide IP valuation experience to DoD acquisition professionals and training programs to bolster application of IP valuation in the evaluation process and negotiations.

### Discrete recommendations from the study outputs:

#### Use Of Metrics as a Change Catalyst

Quantifying the impact, financial and otherwise, of long, tax-payer supported acquisition processes that deliver no or little innovation or technological advantage to the warfighter will be critical in changing leadership and workforce attitudes.

#### Workforce Development with Focus on Valuation

Establishment of a Government-Industry valuation training exchange program and work with academia to train DoD contracting officers and contracting officer technical representatives (COTRs) would enable immersion of Government acquisition personnel in the evaluation and valuation business process of their counterparts in private industry.

#### Establish an IP VALUATION CORPS

- Interviews and the literature survey highlighted the need for qualified technical and engineering staff to be embedded in technology acquisitions that require IP valuations. The DoD could consider creation of a group of trained subject matter experts with detailed evaluation and valuation technical expertise and established experience.
- Such a group could be housed in any one of several locations: the AIRC itself, the headquarters DoD legal team, or at the Defense Contracting Audit Agency (DCAA).
- The current bid protest authority of the GAO could be expanded to fast-track dispute resolution. A small staff with this current expertise may be all that is required.

#### Use of Alternative Acquisition Methods

- Use of OTAs and the Commercial Solutions Offering (CSO) approach by innovation cells as the Defense Innovation Unit (DIU) demonstrate that these accelerate acquisition of innovative technologies and should continue.
- The Defense Acquisition University (DAU) and Federal Acquisition Institute could expand guidelines and training for use of OTAs and CSO techniques. The innovative Digital IT Acquisition Professional (DITAP) training program should be scaled and made more generally available.



## CONCLUSION

### 1.5 CONCLUSIONS AND SUMMARY OF FINDINGS

Increased educational rigor and organizational reform will be critical to identifying and practicing best methods for IP evaluation and valuation in defense acquisitions. The necessary “drilling down” to elucidate underlying causal factors to success or failure of existing and emerging methods will rely on research investigators’ ability to access actual contracts and negotiation tactics of such acquisitions.

With regard to workforce education, two major areas require particular improvement:

- 1) use of flexible contracting vehicles, such as non-DFAR contracts like OTAs, and even for DFAR-included mechanisms, such as SNLRs; and
- 2) the understanding of the best/most appropriate methods of IP valuation.

Valuation was identified as a critical factor in IP acquisitions and exemplifies a basic “failure to communicate” due to two different perspectives or cultures—that of innovative commercial companies versus that of the Government.