Quantifying Risk with the International Traffic in Arms Regulations (ITAR) in YDC

The International Traffic in Arms Regulations (ITAR) is a United States regulatory regime to restrict and control the export of defense and military technologies. ITAR is meant to support U.S. national security and foreign policy objectives. The regulations cover items on the United States Munitions List (USML). ITAR enforcement and oversight is handled by several agencies within the U.S. Department of State, Department of Commerce, Department of Defense, and Department of Homeland Security.

ITAR typically permits companies to share U.S. defense- and military-related technologies only with U.S. persons (or organizations) unless authorized by the Department of State or based on a special exemption. Penalties for non-compliance with ITAR may involve fines and imprisonment. In addition, companies may have clauses in contracts with third parties that create liability in case of ITAR violations.

YDC contains the following input variables for an ITAR Monte Carlo simulation (Figure 1):

1. Dollar Value of ITAR Fines (Before Remediation)

2. Probability of ITAR Fines (Before Remediation)

3. Company 1 – Dollar Value of ITAR Damages (Before Remediation)

4. Company 1 – Probability of ITAR Damages (Before Remediation)

5. Company 2 – Dollar Value of ITAR Damages (Before Remediation)

6. Company 2 – Probability of ITAR Damages (Before Remediation)

7. Cost Before Remediation

8. Probability of ITAR Fines (After Remediation)

9. Company 1 – Probability of ITAR Damages (After Remediation)

10. Company 2 – Probability of ITAR Damages (After Remediation)

11. Cost After Remediation

YDC can use input variables for several more companies in addition to the two companies used in this illustration.

Figure 1: Input and output variables for ITAR Monte Carlo simulation model in YDC

YDC runs a Monte Carlo simulation for 10,000 rows of data and produces a Loss Exceedance Curve with a probability distribution (Figure 2). In this example, the "tail risk" at 10% probability declines from $1.1M pre-mitigation to $0.7M post-mitigation.
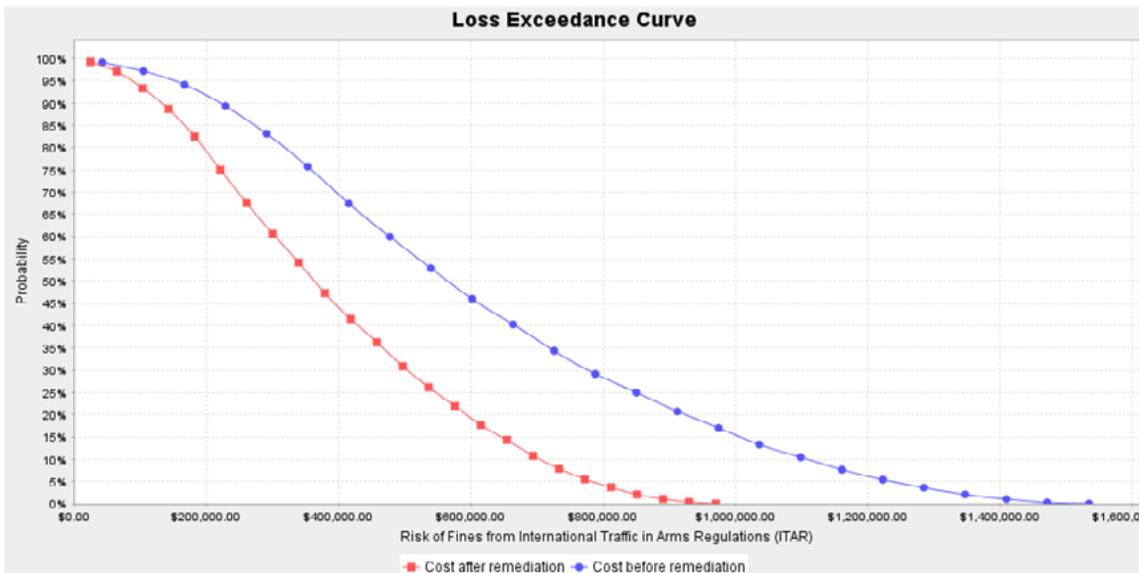

Figure 2: Loss Exceedance Curve in YDC

YDC also generates MIN, MAX, and MEAN values pre-mitigation and post-mitigation. The difference between the MEAN values pre-mitigation and post-mitigation is placed on the data balance sheet (Figure 3).
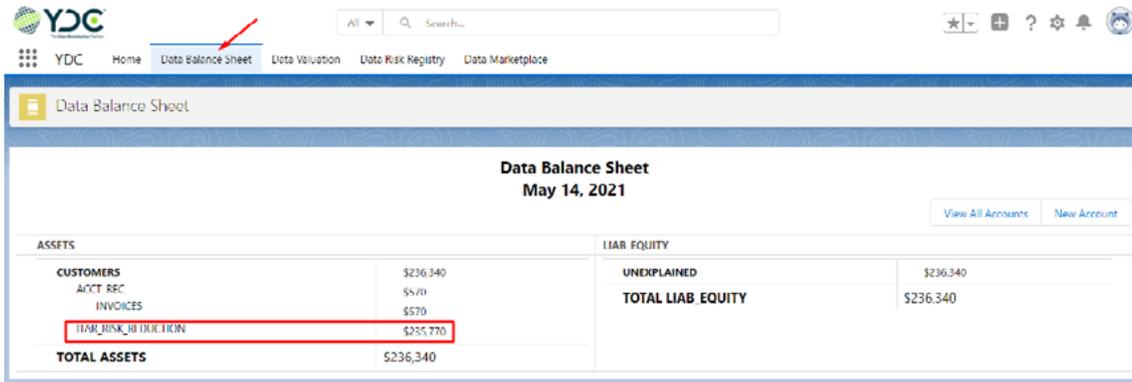

Figure 3: YDC Data Balance Sheet showing ITAR risk reduction

For more information about this solution, please visit **YDC Data Monetization University**.