FRONTIER TECHNOLOGY, INC.

PRODUCT
&
PRODUCT SERVICES

COMMERCIAL CATALOG

PRICES EFFECTIVE
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Life Cycle Management Solutions Tools Descriptions

Integrated Cost Estimation® (ICE™)
FTI’s ICE™ tool brings together the financial management communities’ best cost-estimating tools and databases into an integrated environment with a user-friendly graphical user interface and wizard to guide the user through the cost-estimating process. ICE™ enables program managers, engineers, and researchers to develop a basic cost estimate in a short time using the community-accepted cost models without having to learn in detail how to use the various complex cost-estimating models.

ICE™ is an integrated environment of industry accepted cost estimating toolsets and supporting data

Features

• Easy, graphical access to detailed cost models
• Graphical interface “wizard” to guide user
• Change system parameters for quick trades
• Save multiple concepts to compare alternatives
• Easy to integrate additional models/databases

Benefits

• Estimate LCC and ROI of future systems, modifications, enhancements, or technologies
• Show cost difference between one system alternative and another
• Proven and accepted by DoD financial management community
• Use integrated models or user’s external or proprietary models and data
• Quick startup, and limited training

Figure 1 - Integrated Cost Estimation® (ICE™) Results Screen

This integrated environment of the community’s preferred cost estimating tools provides immediate insight into life-cycle cost, return-on-investment calculations, and Business Case Analysis reports. (Figure 1) This product is for Program Managers, Executives or System Analysts. ICE™ provides fast, credible, cost estimates and return-on-investment values, as well as identification of current high cost areas. In FY03, FTI sold to the US Air Force Materiel Command (AFMC) a command-wide license. AFMC has renewed the license every year since that initial buy. In addition, ICE™ has started to be used by organizations within the other military services.

Initial Annual License:

• ICE™ 1 Seat: $30,000
  o Per Seat - 2 – 4: $22,500
• **ICE™ 5 Seats – $105,000**
  o Per Seat - 6 – 9: $21,000
• **ICE™ 10 Seats $195,000**
  o Per Seat - 11 – 19: $19,500
• **ICE™ 20 Seats $372,000**
  o Per Seat - 21 – 49: $18,600
• **ICE™ 50 Seats: $915,000**
• **ICE™ (more than 50 Seats): Price is negotiable**

**Standard Training Package:**

• Includes 1-day ICE™ Software Training
• Training by FTI is mandatory
• Prices are as follows:
  o Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  o Travel costs, based on training location, will be quoted at time of order
  o Training Materials price will be quoted at time of order based on number of trainees.

**Premium Training Package:**

• Includes 2-day ICE™ Software Training
• Second training day adds working through a customer identified problem/analysis.

**Prices are as follows:**

• Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
• Travel costs, based on training location, will be quoted at time of order Training Materials price will be quoted at time of order based on number of trainees.
• Training Materials price will be quoted at time of order based on number of trainees.

**Annual License Renewal Fees**

25% of base software costs, which includes continued release updates during renewal year

**Maintenance and Support**

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

**Additional Consulting Services**

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order
Integrated Cost As an Independent Variable® (I-CAIV®)

FTI's I-CAIV® process and automated tool provides analysts and senior decision makers with a comprehensive capability to make informed decisions regarding the acquisition and modernization of systems, development of technology investment strategies, and the assessment of alternative architectures / systems / technologies in a Cost As an Independent Variable (CAIV) framework. This tool is a PC-based application that guides the user through an automated affordability assessment process. FTI's AFMC ICE™ license was recently expanded to include I-CAIV® as a packaged AFMC Affordability Analysis Tool Suite.

FTI's I-CAIV® tool is a premier process and automation toolset for assessments of alternatives where cost, technical performance, & risk are critical factors for government and contractor decision makers

**Features**
- Well structured process lead users through proposal and execution decision process
- Prioritizes capabilities and alternative selection criteria based on Warfighter and military utility
- Calculates utility and risk assessments
- Integrates costs and schedule in decision space
- PC based, network aware, web enabled

**Benefits**
- Traces end results to original capabilities
- Provides understandable metrics to decision maker to support conclusions
- Enables remote participation in decisions process
- Integrates cost, utility, risk and schedule parameters into a single decision space

The I-CAIV® tool outputs provide insight into war fighter priorities, visualization of metrics that influence affordability, and identification of cost-effective solutions linked to user requirements (Figure 2). This product provides an automated decision space that integrates both quantitative analysis data and qualitative expert opinion, to produce ranked solution sets and facilitate real-time "what-if" sensitivity analysis.

**Initial Annual License:**
- I-CAIV®, 1 Seat: $30,000
  - Per Seat - 2 – 4: $22,500
- I-CAIV®, 5 Seats: $105,000

**Figure 2 - I-CAIV® Tool Decision Space Example**
- Per Seat - 4 – 9: $21,000
- I-CAIV®, 10 Seats: $195,000
  - Per Seat - 11 – 19: $19,500
- I-CAIV®, 20 Seats: $372,000
  - Per Seat - 21 – 49: $18,600
- I-CAIV®, 50 Seats: $915,000
- I-CAIV® (more than 50 Seats) - Price is negotiable

**Standard Training Package: (Mandatory Minimum)**

- Includes 1-Day I-CAIV® Training
  - Training by FTI is mandatory
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

**Premium Training Package:**

- Includes 2-Day I-CAIV® Software Training as described in the Standard Installation Package with the addition of:
  - Second training day, which adds working through a customer identified problem/analysis.
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer using DCAA approved rates and will be quoted at time of order.
  - Travel costs will be added in accordance with GSA allowed travel and per diem rates and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

**Annual License Renewal Fees:**

- 25% of Base Software Costs, which includes continued release updates during renewal year

**Maintenance and support:**

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

**Additional Consulting Services**

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
NormNet® for System Health Management

Combating unplanned outages, increasing system availability and reducing cost of operations is being achieved by maintenance strategies such as Condition Based Maintenance that shift time-based scheduled maintenance to preventive and predictive approaches based on evidence of need. These strategies are projected to reduce Total Ownership Cost while enhancing system operations. Their effective implementation however, requires the ability to monitor continuously the performance of the system, detect abnormal conditions, diagnose failing components, predict mission impact and recommend remedial action in time to avoid negative mission impact or catastrophic failure.

Figure 3 - NormNet® Telemetry Groups Status

NormNet® PHM technology provides early warning of future system failures – reducing unplanned outages, increasing availability and reducing maintenance cost. The NormNet® technology uses data that is typically collected during performance system evaluation. It does not require changes to the standard sensor suites, data sources or operational procedures. System abnormal behaviors and future problems are identified by detecting small variances from predicted normal behavior (Figure 3). NormNet® was designed for the dynamic environment of high-speed fighter aircraft and is applicable for ground vehicles, ships, electronics and other systems. It can process input from multiple sensors in real time while detecting small variances from expected performance with a low rate of false alarms.
With NormNet® PHM technology, an operations staff can:

- Identify problems and schedule a planned response before an unexpected system failure or catastrophic event occurs.
- Improve system availability while reducing costs.
- Enable Condition Based Maintenance by permitting maintenance to take place based on actual equipment performance characteristics.

The NormNet® package models normal system operations; it does not require physical models or lists of failure modes to detect and predict problems. Using information that is currently available, the NormNet® tool creates a statistical model of normal operations – a healthy system. Then, the system’s abnormal behaviors and future problems are identified by detecting small variances from expected system behavior. The NormNet® software can process input from multiple sensors and it has already been shown to work on power plants, jet engines, trucks, ground vehicles, oil rigs, actuators, pumps, electronics and other systems.

NormNet® licenses are available as a full service license or as a monitoring license. A monitoring license performs monitoring, detection diagnosis and predictive analytics. A full service license includes the capability to create and modify system performance models, fault mode signatures, work flows, data base formats and user interfaces. A customer must have at least one full service license included in the initial purchase of any monitoring licenses for NormNet® PHM software. The full service license provides functions required to configure and operate the NormNet® PHM software that are not included in the monitoring license. NormNet® pricing includes license fees, installation fees and optional engineering and support fees.

**Monitoring License**

Features

A monitoring license includes system monitoring, fault detection, problem diagnosis and predictive analytics. A monitoring license can be installed in any configuration where monitoring is to take place including but not limited to a digital controller or on-board processor or a computer-based management or maintenance system. A monitoring license authorizes a customer to install and use NormNet® PHM software subject to license restrictions that may be established at the time of purchase. One license is required for each copy of NormNet® PHM software that is incorporated into a system or component. The license fee includes one (1) year use of the software; one (1) year of software updates or upgrades that may be issued from time to time by FTI for corrections or enhancements, and two hours of telephone support per purchased license with a minimum of twenty four hours per year. Additional technical support services are available for purchase.

**Monitoring License Pricing**

One Year Price:

- NormNet® 1 Seat: $1,000
  - 2 – 4 Seats: $1,000 per seat
- NormNet® 5 Seats: $5000
  - 6 - 9 Seats: $900 per seat
- NormNet® 10 Seats: $9,500
  - Seats 11-14: $850 per seat
- NormNet® 15 Seats: $13,750
  - Seat 16-19: $800 per seat
- NormNet® 20 Seats: $17,750
- Greater than 20 licenses: Quoted upon request

Renewal Price: 25% of the first year license price

**Full Service License**

A full service license provides the capability to create and modify system performance models, fault mode signatures, work flows, data base formats and user interfaces. At least one full service license is required to support one or more monitoring licenses. A full service license authorizes a customer to install and use NormNet® PHM software subject to license restrictions that may be established at the time of purchase. The license entitles the customer to install NormNet® PHM software on one computer with one simultaneous user. The license fee includes one (1) year use of the software; one (1) year of software updates or upgrades that may be issued from time to time by FTI for corrections or enhancements, and one (1) year of telephone support up to a maximum of 24 hours per purchased license. Additional technical support services are available for purchase.

**Full Service License Pricing**

**First Year Price:**

- NormNet® Single License: $30,000 (includes one monitoring license)
  - Seat 2 – 4: $22,500 per seat
  - Seat 5-7: $19,800 per seat
  - Seat 8 - 10: $18,000 per seat
- NormNet® 10 Seats: $210,900
- Greater than 10 licenses: Quoted upon request
- Renewal Price: 25% of the first year license price

FTI will provide substantial discounts for facility or enterprise licenses or multiple licenses purchased at the same time or in quantities greater than twenty.

**INSTALLATION AND TRAINING:**

**Installation and Training Services**

**Features:**

Installation fees are one-time non-recurring charges to provide the services of FTI engineers and support staff to train the customer’s staff to configure, operate, and maintain NormNet® PHM software and to assist in the initial configuration and installation of NormNet® PHM software on the customer’s computer system. Installation and Training Services include:

- Installation disk configured to operate on the customer’s computer system
- On-site user training and user documentation for up to five users
• Assistance as required to install NormNet® PHM software on the customer’s computer while the training team is on-site
• Document and explain FTI customer support procedures

Pricing

• $10,000 per site where installation and training is to take place.

(Optional) Initial Modelbase and Middleware Development and Validation

Features:
As requested by the customer and in support of the initial installation, FTI engineers will support the customer’s staff in the development and validation of interfaces to the customer data sources and reporting destinations, develop, install in the Modelbase, and validate statistical models representing system normal operations and system fault modes, and perform end-to-end system testing.

Pricing
Time and Material estimate based on complexity of the data, where complexity includes types of data formats, number of data elements, number of operational modes and number of fault modes to be included in the initial Modelbase.

ENGINEERING SERVICES:

Features:
FTI will provide engineering and technical support services upon request of the customer. Such services may include but are not limited to

• Consulting services to the customer staff in updating or revising system models
• Develop and update elements of the NormNet® Modelbase including models of normal operations and fault mode patterns.
• Develop and validate changes to customer system interfaces to the NormNet® PHM software.
• Engineering and technical support services for NormNet® PHM software beyond those included in the license and installation fees
• Technical support in the implementation of Prognostic and Health Management within the customer support infrastructure
• Development of NormNet® PHM software capabilities requested by the customer but are not included in the FTI near-term development strategy.

Pricing

Additional Consulting Services
Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
Logistics Composite Model Analysis Tool Kit (LCOM ATK)

The Logistics Composite Model (LCOM) Analysis Toolkit (ATK) has been the analytical tool that has provided analysts, planners and managers valuable insight into the logistics requirements and performance of Air Force weapon systems. This logistics modeling and simulation capability provides important operations and support information enabling logistics planners and analysts to design and to improve weapon systems, and their support effectively.

The LCOM ATK tools are managed and distributed by the Air Force Lifecycle Management Center (AFLCMC), Engineering Directorate, Supportability Analysis Branch, (EZJS) with support from FTI. In the latest version, FTI developed an LCOM ATK Integrated Suite that is a single, seamless user interface for all the data conversion programs, graphical input interface, simulation engine, post-processors, output tool and other utilities incorporated in the LCOM ATK simulation system. This integrated suite provides a user-friendly, repeatable, structured, and integrated decision making process.

FTI can provide skilled, highly knowledgeable analysts to conduct support assessments on any type system using the highly credible LCOM simulation or to customize the model for specialized analyses for operations and support planning for new or modified systems. FTI has recently applied the model to support issues related to the F-35 Joint Strike Fighter, the B-52, the Reaper Unmanned Aerial Vehicle and for Army PEO Aviation.
For LCOM ATK licenses, contact Mr. Greg Boughton, AFLCMC/EZJS, 937-255-8060, lcomatk@us.af.mil

There is no license fee for LCOM ATK so long as the user is an employee of the federal government or is working on a contract for the federal government.

**Training:**

- A two hour introductory training session is available through AFLCMC/EZJS.
- A three day in-depth user training course is available through AFLCMC/EZJS.
- Training can be tailored to the specific needs of a project. Contact AFLCMC/EZJS for more details.
- These training opportunities are provided at Wright-Patterson AFB, OH. Course availability and participation is determined by AFLCMC/EZJS. Travel and per diem are the responsibility of the trainee.

**Annual License Renewal Fees**

As determined by AFLCMC/EZJS.

**Maintenance and Support**

License Fees include reasonable telephone support by AFLCMC/EZJS, 8 hours/day, 5 days/week (response/call back within one business day).

**Additional Consulting Services**

FTI has extensive experience with LCOM ATK development and application. FTI can provide expert consulting support required and requested by the license holder/user. Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
**Readiness Assessment Engine (RAE)**

FTI's RAE helps facilitate best-value acquisition decisions at key milestones during the Acquisition Life Cycle. RAE is a decision aid that provides a fast, versatile, and effective means to assess the status and maturity of a Program’s vendor’s policy and procedures for manufacturing processes to produce or sustainment processes to maintain a system. It is an aid to assess, report and track an acquisition program’s readiness, compliance, and alignment with major acquisition decision points and program reviews.

RAE facilitates multiple types of standard and custom assessments such as Product Assurance (PA), Technology and Manufacturing Readiness, Production Readiness, and custom organizational assessment procedures. It provides flexible tailoring of assessment questions and enables importing new or different types of assessments using an Excel template. The RAE provides semi-automatic generation of reports in tailorable formats in Microsoft Word, Power Point and Excel.

![Figure 5 - RAE Opening Splash Screen](image-url)
RAE Commercial Pricing

Initial Annual License:

- RAE, 1 Seat: $25,000
  - Per Seat 2 – 4: $18,750
- RAE, 5 Seats: $87,500
  - Per Seat, 6 – 9: $17,500
- RAE, 10 Seats $162,500
  - Per Seat, 11 – 19: $16,250
- RAE, 20 Seats: $310,000
  - Per Seat, 21 – 49: $15,500
- RAE, 50 Seats $762,500
- RAE, (more than 50 Seats): Price is negotiable

Standard Training Package: (Mandatory Minimum)

- Includes 1-Day RAE Training
  - Training by FTI is mandatory
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

Premium Training Package:

- Includes 2-Day RAE Software Training as described in the Standard Installation Package with the addition of:
  - Second training day, which adds working through a customer identified problem/analysis.
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer using DCAA approved rates and will be quoted at time of order.
  - Travel costs will be added in accordance with GSA allowed travel and per diem rates and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

Annual License Renewal Fees:

- 25% of Base Software Costs, which includes continued release updates during renewal year

Maintenance and support:

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.
Additional Consulting Services:

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
**Metric Progress Analysis Engine (MPAE™)**

FTI’s MPAE™ (Metric Progress Analysis Engine) tool provides capability to track progress and understand trends to identify relationships between parameters. Hypothesis testing determines statistical validity of correlations. It displays cost, maintenance, and readiness data in one application. FTI’s proven decision analysis infrastructure and algorithms support the correlation analysis and parameterized trend analysis to provide insights into cross-sector relationships and dependencies.

Features include:

- Framework tailoring to support multiple metric processes
- Define metric parameters, grouping, and document
- Visualization of time series data, with data filters
- Means to normalize measures, indicators, goals to a common index
- Parameterization of measures for user defined categories
- Exports worksheets for import of quantitative, survey, and expert opinion data
- Automated search for strongly correlated measures
- Define a causality hypothesis for regression test
- Easy to exchange databases via email
- Publish reports to the web

MPAE™ tool has been applied to NATO Training Mission –Afghanistan (NTM-A) to assess the progress of the Ministry of Interior Afghan National Police Development effort. The tool has also been applied to Army PEO Aviation maintenance metrics, Air Force Reaper reliability, availability & maintenance metrics, and Navy AN/SPY-1 radar obsolescence trending and prediction.

![Figure 6 - MPAE™ Screen Shots, Program Snapshot Report & Metrics Chart](image)

**MPAE™ Commercial Pricing:**

*Initial Annual License:*

- MPAE™ 1 Seat: $30,000
  - Per Seat, 2 – 4: $22,500
- **MPAE™ 5 Seats**: $105,000  
  - Per Seat, 6 – 9: $21,000
- **MPAE™ 10 Seats**: $195,000  
  - Per Seat, 11 – 19: $19,500
- **MPAE™ 20 Seats**: $372,000  
  - Per Seat, 21 – 49: $18,600
- **MPAE™ 50 Seats**: $915,000
- **MPAE™ (more than 50 Seats)** - Price is negotiable

**Standard Training Package: (Mandatory Minimum)**

- Includes 1-Day MPAE™ Training  
  - Training by FTI is mandatory
- Prices are as follows:  
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

**Premium Training Package:**

- Includes 2-Day MPAE™ Software Training as described in the Standard Installation Package with the addition of:  
  - Second training day, which adds working through a customer identified problem/analysis.
- Prices are as follows:  
  - Labor costs will be based on the labor category of the trainer using DCAA approved rates and will be quoted at time of order.
  - Travel costs will be added in accordance with GSA allowed travel and per diem rates and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

**Annual License Renewal Fees:**

- 25% of Base Software Costs, which includes continued release updates during renewal year

**Maintenance and support:**

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

**Additional Consulting Services:**

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
**Linking Outputs to Outcomes Model (LOOM).**

The LOOM tool provides military and civilian analysts a multi-dimensional canvas to support rigorous, full-cycle assessment, planning, monitoring and evaluation, using existing assessment and planning processes.

The LOOM tool enables users to address and visually map the answers to three questions: What is the current situation (situational analysis/conflict analysis)? What is the desired future state (goals)? How will you get there (plan to achieve the goals)? LOOM uses a visual canvas to map the linkages between outputs (activities), intermediate outcomes, and high-level goals (effects.) It supports users in making explicit their assumptions about the effects of planned activities and to logically map the trajectory between the current situation and desired goals.

The LOOM methodology enables military and civilian analysts to (1) digest the results of situational or conflict analyses; (2) identify high-level goals; (3) make explicit and test assumptions; (4) identify resource needs; (5) identify indicators with which to monitor progress; (6) streamline data collection; (7) document and evaluate functional dependencies; and (8) anticipate and mitigate risks; and (9) adjust implementation strategies to strengthen results.

For LOOM to be most effective, it should be used in conjunction with MPAE™, described above.

LOOM is being used in support of the NATO Training Mission –Afghanistan’s (NTM-A) efforts to plan for and assess efforts to build capacity of the Ministry of Interior and Afghan National Police by facilitating on-the-ground planning workshops. The LOOM infrastructure is also applicable to planning and analysis conducted by COCOMs, Army Civil Affairs, USAID, State, and other military and civilian actors.

![Figure 7 - LOOM Causal Chain Summary Screen Shot](image.toIntString)
LOOM Commercial Pricing

Initial Annual License:

- LOOM, 1 Seat: $25,000
  - Per Seat, 2 – 4: $18,750
- LOOM, 5 Seats: $87,500
  - Per Seat, 6 – 9: $17,500
- LOOM, 10 Seats $162,500
  - Per Seat, 11 – 19: $16,250
- LOOM, 20 Seats: $310,000
  - Per Seat, 21 – 49: $15,500
- LOOM, 50 Seats $762,500
- LOOM, (more than 50 Seats): Price is negotiable

Standard Training Package: (Mandatory Minimum)

- Includes 1-Day LOOM Training
  - Training by FTI is mandatory
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

Premium Training Package:

- Includes 2-Day LOOM Software Training as described in the Standard Installation Package with the addition of:
  - Second training day, which adds working through a customer identified problem/analysis.
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer using DCAA approved rates and will be quoted at time of order.
  - Travel costs will be added in accordance with GSA allowed travel and per diem rates and will be quoted at time of order
  - Training Materials price will be quoted at time of order based on number of trainees.

Annual License Renewal Fees:

- 25% of Base Software Costs, which includes continued release updates during renewal year

Maintenance and support:

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.
Additional Consulting Services:

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
**Integrated Sensor Analysis Toolkit (I-SAT®)**

The I-SAT® package is a sensor calibration and performance evaluation software product that is being used by multiple Department of Defense (DoD) and aerospace industry customers in mission environments. It is a fourth generation package built originally for the radiometric calibration and satellite operations communities with potential benefit to additional applications in remote sensing, medical imaging, etc. The I-SAT® package incorporates a proprietary data visualization component that is optimized to store and display multiple frames of raster pixel data where the actual dimensions of the data array are dictated solely by hardware constraints. The visualization component’s load functions are parallelized to support multi-core processors and the display functions incorporate an intelligent decimation routine that allows the analyst to view pixel arrays that may exceed the maximum screen resolution. Full, interactive control over display color scales, pan/zoom options, histograms and spatial/temporal/spectral line plots make the I-SAT® package a dynamic and essential analysis tool. In addition to the visualization component, the application is a fully-integrated, mission-tested calibration package utilizing a database structured back-end. A tabbed interface allows the analyst to easily toggle between multiple pages, each dedicated to a specific capability (Figure 8). Available capabilities include:

- data visualization
- data statistics
- determination of focus
- calculation of non-uniformity correction (linear/non-linear)
- pixel masking
- frame comparisons

Furthermore, the modular interface allows FTI developers to rapidly add additional, mission-critical, custom analysis capabilities.

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*Figure 8 - Integrated Sensor Analysis Toolkit (I-SAT®) screens for line plots (left), determination of focus (middle), and image histogram and statistics (right)*
*Initial Annual License:*

- **I-SAT®** 1 Seat: $30,000
  - Per Seat, 2 – 4: $22,500
- **I-SAT®** 5 Seats – $105,000
  - Per Seat, 6 – 9: $21,000
- **I-SAT®** 10 Seats $210,000
  - Per Seat, 11 – 19: $19,500
- **I-SAT®** 20 Seats $390,000
  - Per Seat, 21 – 49: $18,600
- **I-SAT®** 50 Seats: $930,000
- **I-SAT®** (more than 50 Seats): Price is negotiable

*Standard Training Package:*

- Includes 1-day I-SAT® Software Over-the-Shoulder Training by FTI personnel
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order.

*Annual License Renewal Fees:*

25% of base software costs, which includes continued release updates during renewal year

*Maintenance and Support:*

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

*Additional Consulting Services:*

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
FTI’s TelemTrend® product is a comprehensive visualization and analysis tool for time-ordered data. The TelemTrend® tool offers the ability to rapidly retrieve data from large (billions of records) database-warehoused sets for visualization and analysis. Data can be displayed from multiple data source tables, such as raw count and calibrated engineering unit data. The TelemTrend® tool provides a variety of options to adjust the visual presentation of archived data including the ability to control data point appearance, and utilize and configure multiple time or value axes (Figure 9). Data analysis features include the ability to threshold data, apply scaling and offsets, detect and visualize data outside of established limit boundaries, and report statistics from displayed data. Additionally, the TelemTrend® product provides custom algorithms for detection of out-of-family data using proprietary spike and drift event definitions.

To aid in data analysis tasks, users have the ability to save custom plot templates in order to facilitate rapid reproduction of defined plot types. Groups of plot templates can be saved as a set template and with the click of a button the entire set of plots are created and imported into PowerPoint® presentation to facilitate periodic data trending tasks.

FTI has also provided additional customized features to the TelemTrend® product for customers to satisfy specific program needs, ranging from creation of specific telemetry analysis figures to creating additional telemetry fields based on complex scientific combinations of existing data.

Figure 9 - TelemTrend® Tool filtering and plotting example screen
Initial Annual License:

- **TelemTrend®, 1 Seat:** $15,000
  - Per Seat, 2 – 4: $11,250
- **TelemTrend®, 5 Seats:** $52,500
  - Per Seat, 6 – 9: $10,500
- **TelemTrend®, 10 Seats:** $105,000
  - Per Seat, 11 – 19: $9,750
- **TelemTrend®, 20 Seats:** $180,000
  - Per Seat, from 21 – 49: $7,300
- **TelemTrend®, 50 Seats:** $399,000
- **TelemTrend® (more than 50 Seats) - Price is negotiable**

Standard Training Package:

- Includes 1-Day TelemTrend® Training Over-the-Shoulder training by FTI personnel
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order.

Annual License Renewal Fees:

- 25% of Base Software Costs, which includes continued release updates during renewal year

Maintenance and support:

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

Additional Consulting Services:

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.
Extensible Load Adaptive Processing System (ELAPS®)

FTI’s ELAPS® (Extensible Load-Adaptive Processing System) software suite is designed to increase the efficiency of system-of-systems test evaluation by addressing the core requirements of automation, scalability and flexibility. The automated components within the ELAPS® architecture can be added as independently developed plug-ins, to be dynamically distributed across an extensible array of processing servers to maximize the use of available computational power. At the core of the ELAPS® architecture is the distributed processing services that run independently in the background on any processing machine within the distributed network. These services interact with a centralized database and a library of plug-ins in order to perform data processing tasks such as automated file detection, data parsing, reduction and migration in a load-adaptive, scalable manner. The automated data processing enacted by the ELAPS® software can dramatically reduce the time from data acquisition to analysis and evaluation by eliminating the manual processes involved. The result is near-immediate access to the information present in generated data, with no need for individual users to process raw data files directly.

In addition to the ELAPS® Service which schedules tasks across available distributed processing services, there are two Graphical User Interfaces (GUIs). The first, the ELAPS® Workflow Generator, enables visualizing and configuring processing chains. The second, the ELAPS® Control Console, is a dashboard for status and configuration of the distributed services’ activity.

Figure 10 - Extensible Load-Adaptive Processing System (ELAPS®) Workflow Generator (left) and Control Console (right) for configuring and monitoring processing status
ELAPS® tool pricing includes annual license fees, installation fees and optional engineering and support fees.

Initial Annual Server License (Unlimited user seats included):

- ELAPS®, 1 Server: $10,000
  - Each additional Server from 2 – 8: $8,000
- ELAPS® (more than 8 Servers) - Price is negotiable

Installation and Initial Service Customization Price:

- ELAPS®, 1 Server: $30,000
  - Each additional Server 2 – 8: $15,000
- Greater than 8 servers: Quoted upon request

Installation fees are one-time non-recurring charges to provide the services of FTI engineers and support staff to train the customer’s staff to configure, operate, and maintain ELAPS® software and to assist in the initial configuration and installation of ELAPS® software and host Service on the customer’s computer system. Installation and Training Services include:

- Installation disk configured to operate on the customer’s computer system
- On-site assistance as required to install ELAPS® software on the customer’s computer
- Document and explain FTI customer support procedures

Standard Training Package:

- Includes 1-Day ELAPS® Training Over-the-Shoulder training by FTI personnel
- This is separate from the site visit for installation assistance included in the Installation and Initial Customization price
- Prices are as follows:
  - Labor costs will be based on the labor category of the trainer and will be quoted at time of order.
  - Travel costs will be based on training location and will be quoted at time of order.

Annual License Renewal Fees:

- 25% of Base Software Costs, which includes continued release updates during renewal year

Maintenance and support:

License Fees include reasonable telephone support 8 hours/day, 5 days/week (response/call back within one business day). If telephone support exceeds 60 minutes in any one week or 120 minutes in any one month, FTI will negotiate appropriate consulting rates for future calls.

Additional Engineering and Consulting Services:
FTI will provide engineering and technical support services upon request of the customer. Such services may include but are not limited to:

- Consulting services to the customer staff in plugin or workflow configuration
- Customized plugin development services, including encapsulation of customer algorithms within plugins
- Develop and update customer-specific plugins or workflows
- Configuration and performance tuning of ELAPS® host Service or distributed processing services
- Engineering and technical support services for ELAPS® software beyond those included in the license and installation fees
- Technical support in the implementation of Data Management within the customer support infrastructure
- Development of ELAPS® software capabilities requested by the customer that are not included in the FTI near-term development strategy.

Consulting support required and requested by the license holder will be assessed in conjunction with the customer. Appropriate expertise will be made available at the labor category level necessary to address the customer needs. Price will be quoted at time of order.