The ever changing economy has driven our company to evaluate our current methods to improve efficiency, while maintaining quality. The software that we use is of the upmost importance to our daily functions, and needs to be up to date, user friendly, and reliable. My proposal for the purchase and implementation of MATLAB 7.12 will provide a detailed explanation on the product, the schematics involved, and the cost associated with integrating this product within our company. The new program will help with time management and overall efficiency, while allowing us to maintain a superior level of quality. My objective is to evaluate the cost ratio compared to the overall benefit of the product.

Our Company is continually presented with new challenges every day. Our current challenge at hand is to evaluate our current operations and to seek ways to increase efficiency. To be successful in today’s market, it is imperative that we remain competitive in all aspects within the company. The specific area that I will be evaluating is the software programs used by the majority of our employees, more specifically the engineers. Our software needs to allow us to reduce our costs, and complete projects timely and effectively, while being an investment in our future. The question I am addressing is whether or not the employees have been given the adequate tools in order for them to be successful. Also, whether or not these tools are simply adequate and whether a new investment would be needed in order to improve their success. With the limitations of the budget, my proposed solution is to purchase and integrate the newly released MATLAB 7.12.

Through researching and evaluating different programs, one of the most successful programs in the engineer industry today is MATLAB 7.12. Thousands of companies are using this product and other products from MATHWORKS. The testimonials state specific examples from major companies and competitors who have had success in conquering their challenges with the aid of these programs. After discovering their success, MATLAB 7.12 deserves a further look into the feasibility of purchasing this product for use within our company.

One of the main factors in making this decision is the timeframe involved. Mathworks offers trial downloads, immediate consultation, on-site training, technical support, and online demos. The initial consultation could be completed within the next week. We would need to submit a request for a quote, after determining the type and number of licenses needed. Once the initial consultation is completed, our focus would need to shift on implementing the product. The initial installation of software would be simple. The software can be installed by our IT Department or by a MATLAB representative if we choose, regardless of installation method, it would be completed within one business day.

The most time consuming portion of the integration of MATLAB 7.12, would be the initial training. The company features free demos and webinars that employees could review prior to the installation of the product. The employee’s job responsibilities would determine which training would be necessary. The initial time investment would cost the company an immediate fee, but the new training will allow employees to be more productive in the immediate future. Mathworks also offers training classes at our facility or online. The training would be conducted by their experienced engineers, specifically designed to our needs. They offer three different skill levels depending on the particular employee. Once the product is purchased, the entire integration of the software could be completed within one month.

The integration would be beneficial to our daily functions as well as an investment in the future. Many engineering programs across the country are implementing MATLAB into their advanced courses. For instance, the Systems Engineering Program at the University of Houston, offers an advanced engineering mechanics course using MATLAB to teach students how to develop and program custom software. This would save our company time and money invested in the training of the future employees coming to this company. They will already be trained and have a thorough knowledge of the software we are implementing. As far as our systems are concerned, we would not need to complete any upgrades prior to the implementation of this program. The software MATLAB 7.12 has compatibility with Linux, MAC OS, and Windows operating systems. All of our current equipment would be sufficient in supporting the software. According to Mathworks, MATLAB is also capable of integrating other languages and applications, to increase efficiency.

Within the first six months of implementing MATLAB 7.12, we can expect to see an increase in productivity of approximately 10%. There will be the initial acclamation to the program, but once accustomed to the software employees should find that MATLAB can solve technical computing problems faster than previous software programs. I believe that with time we will see a gradual increase in productivity to a possible 20%. As published in *Math Digest,* by Mathworks, Honeywell’s Commercial Aviation Systems division was able to cut their design times by 60%. The cost in man-hours alone will far surpass the initial investment in the software. As far as the budget is concerned, the initial budget for the software purchase should be allotted at $50,000. This budget would include simply the cost of the software and additional programs to compliment the software. An additional $30,000 should be expected for installation and training. The majority of the cost from training will result in the productivity lost during this period. Overall, I would expect an initial budget of $80,000 to implement the software. As upgrades to the software become available, a yearly budget may be necessary to keep the software up to date.

After evaluating the advantages and disadvantages of the software, I feel that upgrading our software is inevitable, but upgrading to MATLAB 7.12 is an investment in our future. The initial purchase price of the software will be offset by the productivity seen in the first six months. The new employees recently graduated from engineering programs across the country will already be accustomed to the software. The new MATLAB 7.12 offers a wide range of high-level technical applications, with easily accessible features for documenting and sharing work. This program was designed and is supported, so that companies like ours, can be successful and stay ahead in today’s ever changing technology. To conclude, I am recommending the immediate purchase and implementation of MATLAB 7.12.

Works Cited

Dabney, James B., and Fathi H. Ghorbel. "Enhancing an Advanced Engineering Mechanics Course Using MATLAB and Simulink." *International Journal of Engineering Education*. Print.

King, Wayne. "Design Times at Honeywell Cut by 60% - MathWorks User Story." *Math Digest*. *MathWorks - MATLAB and Simulink for Technical Computing*. The Mathworks Inc. Web. 26 June 2011.

<http://www.mathworks.com/company/user\_stories/Design-Times-at-Honeywell-Cut-by-60.html>.

"MATLAB 7.12 - Latest Features." *MathWorks - MATLAB and Simulink for Technical Computing*. The Mathworks Inc, 08 Apr. 2011. Web. 26 June 2011. <http://www.mathworks.com/products/matlab/whatsnew.html>.