**D R A F T 1 - 11 - 90**

Edited Copy

# UNIVERSITY SCIENCE, ENGINEERING AND TECHNOLOGY, INC.

## BUSINESS PLAN

2,3,6

1 UNIV. funding R.I.P.
2. UNIV. + Ind R.I.P.
3. SBIR
4. Patents → contacts
5. Pat. App. → Go Univ.
6. Software
7. other tech.
8. services FCC Labs.
9. facilities

January 11, 1990

## EXECUTIVE SUMMARY

In 1988, University Science, Engineering and Technology, Inc. (USET) was formed to pursue as one of its purposes the development of a database composed of licensable technology, facilities and services available from worldwide creative sources. Approximately three million dollars have been expended by Maxwell Communications Corporation (MCC) in:

1. Identifying organizations attempting to license technology, facilities and services;
2. Accumulating descriptions of such technology, facilities and services; and
3. Developing an electronic delivery system that will provide industry easy access to the accumulated information.

This expenditure has produced an operational prototype of an online electronic data system consisting of approximately 185,000 abstracts of licensable technology, facilities and services searchable with our proprietary software. This software enables a subscriber to search the full-text database without the use of the thesauri or complicated search commands.

A substantial portion of the three million dollars was devoted to the development of the described software, which is intended for generic use with other full-text databases. For purposes of this plan and possible purchase of the USET database, it is assumed that approximately $200 thousand dollars was devoted to identifying organizations attempting to license technology and accumulation of descriptions of technology. Purchase of a license to use the software for the purposes of delivering the database would be calculated on the MCC invest in the software.

## BACKGROUND

For many years companies interested in new products have developed them through their own resources or have relied on a small cottage industry to supply them with information on licensable

technology. The services provided have not been widely used because the financial backing for this cottage industry has not been adequate enough to assure a comprehensive or current database of licensable technology, nor has the industry been innovative enough to leverage their resources to create such a database.

## CONCEPT

Industry and entrepreneurs everywhere have recognized that they are in the midst of a worldwide explosion of new technology that may enure to the benefit of their competition unless they themselves can pursue its application. The pursuit of technologies developed by universities, government and other laboratories, and the use of their facilities and services has become essential as the cost of many internal research and development projects has been moving out of even for large companies' reach.

At the same time governments worldwide, who fund research, are creating new incentives to encourage the exchange and use of scientific and technical information, facilities and services, especially between business and government-supported research institutions. This is being done to expedite the application of research by industry and to justify the continuing government investment in R&D. These facts have created an unprecedented environment in which government-supported research institutions, who as a result of recent government actions own their technology and may lease their excess facilities, are under increasing pressure to collaborate with industry manufacturers in order to complete the innovation process and produce jobs.

Because the scientific journals are not the most efficient or timely way of communicating a new product or process to industry or to entrepreneurs, an increasing number of institutions with large government-funded programs have employed Technology Managers to supplement journal publications with other disclosures ~~tailored~~ designed to attract industry's attention.

In addition to the support provided to research institutions, governments like the U.S.'s have recently started funding small businesses to test concepts and develop prototypes of new products and processes that have been evaluated by government review bodies to be potentially useful. These small businesses account for a substantial portion of the technological breakthroughs that produce new jobs.

Because of these new funding programs, an opportunity exists to match industry manufacturers with technologies from innovative, aggressive small businesses who have won government awards. Abstracts of the 16,000 awards, which cover an investment of over $1.5 billion dollars since the programs began, are publicly available. These abstracts have been accumulated from participating federal agencies for inclusion in the USET database.

Finally, there is a growing number of large industrial firms that have begun licensing technology that they perceive to be in excess of their own needs. For instance, some of these technologies are valuable industrial processes being used by the creating company, but believed to have other uses. There is no known single source for hardcopy disclosures of this class of technology and no comprehensive electronic database.

There is clearly no single credible entity in the worldwide business of identifying the finite number of organizations attempting to license technology, accumulating their technology portfolios in a database, and then selling access to industry. The preliminary findings of a market study conducted on behalf of USET indicate that industry would be interested in subscribing to such a database. This is not surprising since the database will create savings over that which they themselves would have to incur to find the same information and the database will be the only known product that cuts horizontally through all technology for that which is licensable. Other technology databases are ordinarily vertically organized around specific technology without the additional information regarding available licenses, stage of development, appropriate contact points, etc, that will be furnished in the USET database.

## PRODUCT DESCRIPTION

### The Database

The USET online prototype system is an information source consisting of several full-text, technology-oriented databases, most of which are unique to the USET system. This information has been collected worldwide from universities, government laboratories and industry. New information sources are continually being added. The following list provides a brief summary of each information source currently available.

1. University Administrators

   This source contains the technology management contacts for the major U.S. research universities. These are the university administrators for: (1) setting R&D policy, (2) managing sponsored research, and (3) licensing technology to outside groups. For each university contact, the name, title, address and phone number is provided. This database is updated continuously.

2. University Funding

   The annual R&D funding (federal, non-federal and total amounts) for the major U. S. universities is provided for 22 research areas including: Life Science, Environmental Science, Engineering, Physical Science, Mathematics and Computer Technology. This database is updated annually.

3. Research Grants and Contracts

   This source contains descriptions of the more than 140,000 federally-funded research projects in progress in industry and at more than 700 universities, medical schools and research hospitals. The descriptions include: Title and Abstract, Principal Investigator, and Research Institution. This database is updated monthly.

4. Patents

This source contains descriptions of more than 15,000 licensable patented technologies owned by universities, government laboratories and private industry worldwide. The descriptions include: Patent Title and Abstract, Inventor(s), Licensing Agent Information and Major Claims. This database is updated continuously.

5. Patent Applications

This source contains descriptions of the licensable patent pending technologies available from domestic universities, government laboratories and industry. The descriptions include: Non-enabling Abstracts, Inventors, and Licensing Agent Information. This database is updated continuously.

6. Other Technology

This source contains descriptions of technologies that are not ordinarily patented, such as computer software and monoclonal antibodies. These licensable technologies are available from domestic universities, government laboratories and industry. The descriptions include: Title, Non-enabling Abstract, Inventor(s), and Licensing Agent Information. This database is updated continuously.

7. Small Business Technology

This source consists of two databases composed of:

(a) 8000 descriptions of Small Business Innovation Research (SBIR) projects, funded by eleven agencies of the U. S. government, and

(b) More than 8000 proposals recommended by the National Bureau of Standards (NBS) to the DOE Energy-Related Inventions Program.

The SBIR program annually awards more than $400 million for its projects in two phases. Phase I awards are for feasibility studies. Phase II awards are for the further development of Phase I projects and are based on scientific or technological importance.

The Department of Energy (DOE) proposals had to meet technical feasibility, potential energy supply impact or conservation, and commercial feasibility criteria to justify NBS recommendations.

The descriptions for these two databases include: Title and Abstract, Research, Company, and Stage of Development. This database is updated several times per year.

8. Facilities

This source describes the state-of-the-art R&D facilities at domestic universities and government laboratories available to the public on a fee basis. The description includes the name and phone number of the facility director. This database is updated continuously.

9. Services

This source describes the R&D services offered to the public on a fee basis by domestic universities and government laboratories. The description of services includes the director's name and phone number. This database is updated continuously.

**The Search Features**

The USET search features ~~are intended to~~ make online searching ~~with personal computers~~ for technology ~~in the database~~ very simple. With the USET ~~online~~ system, subscribers can find and track technology developments in their areas of interest without using third party information specialists.

To search the USET ~~online~~ system's full-text information sources, no thesaurus or complicated search commands are required. The USET ~~online~~ system uses four search features: Keyword, HyperWord, Relevance and HyperRelevance.

These features, which simplify the access to technology-related articles, are described as follows:

Keyword -- allows the subscriber to look through a chosen database using ~~Boolean~~ search methodology. The search can be limited to one or more fields or all fields of the chosen database.

Hyperword -- allows the subscriber to search through all the databases simultaneously, by entering search terms (words or phrases) of choice. The USET system then displays those databases containing information which satisfies the entered search terms. When a database of interest is selected, titles of all articles containing the search terms are displayed and selection of the full text of each can be made. If desirable, the words or phrases may be chosen directly from the text of an article of interest previously found through a keyword search.

Relevance -- allows the subscriber to easily find other articles within a single database which are similar in content to an article of interest found through a keyword search. In one keystroke, the USET system compares relevant terms from the article of interest and then displays the titles of the similar articles in order of decreasing relevance. Selection of the full text of each title can then be made.

Hyperrelevance -- allows a subscriber to search with one keystroke all the databases simultaneously for those databases having articles similar in content to an article of interest found through a keyword search. When a database of interest is selected by a second

keystroke, the USET system compares the relevant terms within the article of interest and similar articles within the selected database in order of decreasing relevance. Selection of the full text of each title can then be made.

## OWNERSHIP

While much of the information included in this database is publicly available, the fact that it has been reorganized, reformatted, can be found in one place and has valuable information added makes it clearly unique, proprietary and copyrightable.

With over 350 different and constantly changing technology portfolios from around the world represented in the database with the contact responsible for negotiating licenses added to each item in each technology portfolio, we consider the barriers to competition to be very high.

The fact that USET personnel have developed both a cooperative relationship with many technology managers in the community and have a unique process of accumulating major parts of the database, which is not dependent upon person-to-person contacts, greatly reduces the labor intensive techniques which competition must now undertake.

## THE MARKET

A number of indications point to a strong market for this database. First, it has been widely reported that the current movement of the Eastern Bloc to free-market economies is largely motivated by their failure to deliver adequate consumer goods to their communities. Francis Fukuyama of the Department of State has called this change "The End of History," which "will be replaced by economic calculation, the endless solving of technical problems, environmental concerns and the satisfying of consumer demands." Indeed, hundreds of negotiations have already been undertaken to conclude joint ventures intended to bring western technology into the Eastern Bloc. Eastern Block technology

will also be available to the West. Gordon Feller of Integrated Strategies recently stated that, "There are 6000 R&D institutes in the Soviet Union alone. Together, it and Eastern Europe account for one-third of the world's PhD level engineers and scientists. They have a huge pool of patents. But they know nothing about how to commercialize their ideas."

Further, as noted previously, industry and entrepreneurs everywhere have recognized that they are in the midst of a worldwide explosion of new technology that may enure to the benefit of their competitors unless they, themselves, consider its application. That this is understood and that industry is reacting to it is clear from each of the following attached articles:

1. "Sometimes the Best Solution is in Someone Else's Lab"
2. "Technology Forecasting at J&J"
3. "Easy Access to Federal Technology a Booster for Small Business"
4. "Getting High Tech Back on Track"
5. "Competitor Intelligence: A Grapevine to Rivals' Secrets"
6. Boehringer Ingelheim Advertisement for "Information Scientist"

The increased interest of businesses in technology databases is paralleled in the U. S. government by the priorities identified by George Bush in an October 14, 1988 interview for Science Magazine.

> "We will encourage exchange of scientific information, especially between business and academic institutions, to speed up the application of research to benefit the public."
>
> "We will improve the acquisition of scientific and technical information from other countries through expedited translation services and more aggressive outreach by federal agencies."

The only conclusion one can draw from these items is a growing interest in earlier access to information regarding new technology. It is well-established that the pharmaceutical and chemical companies already have personnel, similar to that advertised for by Boehringer, searching for technology created outside their company. Some examples include Abbot Labs, Adria Labs, American Cyanamid, American Hoechst, Amgen, Baxter, Dow Chemical, Pfizer, Merck and hundreds of others identifiable from the membership list of the Licensing Executive Society. What remains to be determined is whether these individuals can be convinced to search for technology on the USET online system.

**USET, BETHESDA, MD**
**FIXED ASSET INVENTORY**
**2-28-90**

**FURNITURE**

| # | DESCRIPTION | MAKE/MODEL # | USER/ LOCATION | PURCHASED FROM | REPLACEMENT COST |
|---|---|---|---|---|---|
| 3 | Desks | | Latker, Liverman Temp | General Furniture 4-88, $903 | |
| 1 | Secretarial Desk | | Temp | | |
| 1 | Credenza | | Latker | General Furniture 4-88, $362 | |
| 3 | Executive Chairs | | Latker, Liverman | General Furniture 4-88, $1,153.68 | |
| 1 | Secretarial Chair | | Temp | General Furniture | |
| 1 | Chair | SX100G | Liverman | Assoc. Office Products 5-13-88, $294 | |
| 3 | File Cabinets Metal Standard | 4-Drawer FLF 4L-36 | Work Space | Assoc. Office Products 5/16&18/88 | $725 each |
| 1 | File Cabinet | 2-Drawer | Liverman | | $163 |
| 10 | Conference / Waiting Room Chairs | | Latker, Liverman, | | $253 each |
| 1 | Folding Work Table | 8 Ft | Work Space | The Stationers 2-11-88 $99.85, PO 35100 | $150 |

**USET, BETHESDA, MD -- FIXED ASSET INVENTORY -- 2-28-90 -- FURNITURE**

| # | DESCRIPTION | MAKE/MODEL # | USER/ LOCATION | PURCHASED FROM | REPLACEMENT COST |
|---|---|---|---|---|---|
| 1 | Work Table | 6-1/2 Ft | Liverman | | $368 |
| 1 | Wood Bookcase | 5 Ft | Latker | 7-8-88 | $197 |
| 1 | Wood Bookcase/ Cabinet | 6 Ft | Liverman | | $200 |
| 2 | Metal Bookcases | 6 Ft | Liverman Work Space | | $197 each |
| 1 | Metal Supply Cabinet | 6 Ft | Work Space | | $250 |
| 2 | Metal Literature Sorters | | Conference Room | Office Communications 10-24-89, $286 PO 13239 | |
| 5 | Cubical Dividers | | Working Space | | $163 each |
| 1 | Conference Room Table | | Conference Room | Came with Premises | $180 |
| 8 | Stacking Chairs | | Conference Room | Came with Premises | $52 each |

**USET, BETHESDA, MD**
**FIXED ASSET INVENTORY**
**2-28-90**

**SOFTWARE**

**FOR IBM-COMPATIBLES**

| DESCRIPTION | MAKE/MODEL # | PURCHASED FROM | REPLACEMENT COST |
|---|---|---|---|
| Bizplan Builder 3.1 | | Egghead, 12-26-89 $70, PO 13536 | |
| Chart-Master | Ashton-Tate | | No Longer Made Applause II = $69 |
| DataFlex | | | $625 |
| DataFlex -- Supplemental | Developed by Liverman & Assoc | | $30,000 |
| Flow Charting | Patton & Patton | | $200 |
| Laser Envelops | Ermasoft | Egghead, 1-10-90 $50, PO 13587 | |
| Lotus 1,2,3 | | Newco Data, 4-8-88 $301, PO 11007 | $350 |
| MapInfo | | | $675 |
| Magellan | Lotus | | $120 |
| Word 3.1 | Microsoft | Sears, 12-23-87 $215, PO 34123 | $230 |
| Org Plus | Banner Blue | | $200 |
| Pagemaker 3.0 | Aldus | Sears, 12-18-87 $525 | $555 |
| ProCom | | | $70 |
| ScreenExtender for Wordperfect | Stairway Software | Egghead, 1-12-90 $73, PO 13604 | |
| Word Perfect 5.0 | | Newco Data, 4-8-88 $230, PO 11007 | $250 |
| Word Perfect 5.1 Upgrade | | Egghead, 1-10-90 $79, PO 13587 | |

**USET, BETHESDA, MD -- FIXED ASSET LIST -- 2-28-90 -- SOFTWARE**

**FOR MACINTOSH**

| DESCRIPTION | MAKE/MODEL # | PURCHASED FROM | REPLACEMENT COST |
|---|---|---|---|
| MacDraw II | | Came with TIC Mac | $335 |
| MacPaint 2.0 | Claris | Egghead, 1-23-90 $85, PO 13641 | |
| MacPrint | Insight | Computerland, 10-3-89 $136 | |
| MacProject | | Came with TIC Mac | $420 |
| Microsoft Word | | Came with TIC Mac | $296 |
| Microsoft Works 2.0 | | Egghead, 11-20-89 $189, PO 13406 | |
| More II Desktop Publishing | Symantic | Came with TIC Mac | $300 |
| Tops | | Came with TIC Mac | $240 |

## INFO ON COMPAC COMPUTER SENT TO TIC IN EXCHANGE FOR MACINTOSH —

| DESCRIPTION | MAKE/MODEL # | SERIAL # | USER/ LOCATION | PURCHASED FROM | REPLACEMENT COST |
|---|---|---|---|---|---|
| Computer | Compaq DeskPro 286<br>40 MB, 1.2 MB Floppy<br>Drive | | Houston | Sears, 12-23-87<br>$2,395, PO 34123 | |
| Keyboard | | | | | |
| Monitor | Compaq Amber | | Houston | Sears, 12-23-87<br>$171, PO 34123 | |
| ? | Compaq VDU | | Houston ? | Sears, 12-23-87<br>$119, PO 34123 | |
| Drive | 360 K | | Houston | Sears, 12-23-87<br>$255, PO 34123 | |
| Software | Compaq 3.2 | | Houston | Sears, 12-23-87<br>$70, PO 34123 | |

This awakening and the absence of a comprehensive worldwide database aimed at licensable technology leads us to conclude that the following private sector individuals and groups will have an interest in purchasing the USET online system:

1. Licensing executives
2. Company librarians
3. In-house legal department
4. VP/Director, Research and Development
5. VP/Director, New Business Development
6. VP/Director, Strategic Planning
7. VP/Director, Manufacturing
8. Major law firms
9. Specialty law firms (e.g., intellectual property)
10. Venture capital partnerships / investment bankers
11. Business brokers
12. Some consulting firms

Many of the individuals in these groups can be easily reached through membership lists of peer associations. Thus, licensing executives normally join the Licensing Executive Society and the Association of University Technology Managers, vice presidents and directors of research and development belong to the Industrial Research Institute, patent attorneys join the American Intellectual Property Law Association, etc.

Indeed, in oral discussions with a number of individuals from these categories all were receptive to purchasing the USET service when available. One individual indicated that if USET does not continue to develop and market this product someone else will have to do it.

## THE COMPETITION

A survey of possible competitors reveals that businesses offering services based on at least some accumulation of licensable technology do so as follows:

1) Solicit abstracts of available technology on a specified format;

2) Create a database that is searchable only by its employees; and

3) Sell hardcopy access only to technology areas in which subscribers have indicated an interest. (Clearly no one is providing an online system as developed as USET's, nor are we aware of anyone using CD-ROM floppy disks to communicate the results of a search to subscribers.)

Another characteristic that is not entirely common to the companies reviewed is a conference capability. Conferences are structured around sources of technology interested in licensing and those looking for new technology. Both the technology sources and the lookers pay to attend. Not only does the conference supplement income, it also builds the business's database. While this plan does not contemplate a conference function, such an initiative is a natural adjunct to the USET database. Further, as will be noted from the discussion of competitors, many use their accumulated information to support a newsletter which could also be undertaken by USET, using its database as the source.

The following are companies that generally have the characteristics noted in 1 through 3 above:

Dr. Dvorkowitz & Associates, Ormond Beach, FL. Dr. Dvorkowitz is franchising his database overseas and solicits a great deal of foreign technology. Dr. Dvorkowitz, who is 72 years old, recently sold his conference capability and is also interested in selling his database activity which purportedly includes 20 K technologies. Subscriptions for selected technology areas are $10K annually. Dr. Dvorkowitz has indicated that he presently has close to 125 subscribers. His annual gross would then be $1.25 million.

Lloyd Patterson, International, Ormond Beach, FL. Lloyd Patterson has only twenty-two clients which he services on a very personal basis including small conferences. Patterson is interested in being acquired. He claims to have 20 K technologies in his database.

Subscriptions for selected technology areas are $30K annually. His gross, including conferences, is over $700,000.

NERAC, Tolland, CT. NERAC searches not only the database it has accumulated, but other on-line databases to address specific technology problems. Most of NERAC emphasis is "batch" searching to solve technology problems. Subscriptions are $6K annually. NERAC has indicated a gross of $3 million. NERAC is not considered to be a competitor since the databases they search are not limited to licensable technology.

Technology Catalysts, Washington DC. Technology Catalysts claim that its database has much licensable technology from small businesses. They have a conference capability. Subscription rates unknown. Gross unknown.

Technology Insights, Englewood, NJ. Technology Insights discloses its technology by newsletter for specific areas of technology. Technology Insights puts great emphasis on reviewing the Patent Office's weekly Gazette for new patents with high technology potential. Technology Insights is not considered to be a competitor since their newsletter is not limited to licensable new products and processes. Subscription rate for newsletters are approximately $250 annually.

TECHSTART International, New York, NY. TECHSTART indicates that Arthur Anderson Company is their alliance partner. While access is provided by hardcopy, they indicate that floppy disks will be available in the future. Subscription rates unknown.

BBI (MacMillan), Tustin, CA. BBI discloses its technology by newsletter. They limit themselves to the Life Sciences and also have a conference capability. Their newsletter is not limited to licensable new products and processes. They are now part of MCC through the MacMillan acquisition.

Regis McKenna, Inc. (Center for Technology Licensing), Palo Alto, CA. Not much is known about Regis McKenna, though most of their activity appears to be focused on the electronic industry. However, on February 2, 1989 the company offered a seminar entitled "University Research: The R&D Gold Mine."

While in theory, all the companies have access to all technology sources, it does not appear that any one company has attempted to pursue all available sources or even all technology categories. Further, some do not limit their database to licensable technology. There appears to be little evidence that the government laboratories are being tapped at all. NERAC, Patterson, and Technology Catalysts appear uninterested in universities. Most provide a surprising amount of technology available from industry sources. As noted, none disclose their database through an online system.

With the possible exception of Technology Catalysts, there is no evidence that these companies have tapped the SBIR abstracts.

As best as could be determined, all the companies are running in the black. While this is in no means an exhaustive study of the companies reviewed, it has assisted in designing the service we intend to provide around our proprietary technology database.

## THE USET ADVANTAGE

We believe that the USET prototype online system will be far superior to any current product or service presently offered by any known competitor for at least the following reasonings:

1. Simple online access to the licensable technology in the database is not offered by any other company. To the extent such information is available, it is retrieved out of an in-house database by the sellers personnel on the basis of the subscriber's predetermined "wish list" or in the form of a newsletter. A subscriber cannot browse

through such a database at its leisure nor change its "wish list." In short all current competitors force their subscribers to find data through the supplier's own information specialist.

2. The USET proprietary software permits a subscriber to search the full-text database without the use of thesauri or complicated search commands with keywords of its selection.

3. The USET database is more comprehensive than that of competitors because:

   a. USET personnel have far better access to a greater number of technology sources than competitors. We presently are in contact with 170 U. S. universities and are able to accumulate most of the technology portfolio from over 350 sources of licensable technology.

   b. USET's electronic scanning process will more efficiently convert hardcopy to electronic media, making the database more extensive.

   c. Knowledge and ability to identify technology sources permits segregation of licensable technology from existing electronic databases that do not make such segregation. It appears that competitors have limited themselves to resource intensive person-to-person solicitation and have not discovered how to identify licensable technology from publicly-available databases.

   d. USET accepts technology abstracts in hard copy or electronic form and will format information as needed. Submitters are not required to submit in prescribed formats.

4. The organization of the database into research grants and awards, patent, patent applications, etc., permits subscribers to search the kind of subject matter of interest more efficiently.

5. That information in the database which is not unique in itself has been reorganized, reformatted and in combination cannot otherwise be found in one place, which makes the database in its entirety completely unique.

6. The licensable technology database has the following standard format into which all acquired information is adapted:

a. Creating Organization
b. Inventor (s)
c. Title
d. Description of technology
e. Potential Application of the Technology
f. Advantages of this Technology
g. Patent Status (Patented, Patent Pending or Tech Note)
h. Submit Inquiries To (Contact Name and Telephone Number)
i. Reference Number (Internal ID Number)
j. License Terms
k. Keywords

7. The database is being presently developed so that each of the 350 technology portfolios can be viewed in isolation. We believe this can be a major incentive in attracting the cooperation for organizations wishing to license their technology since most do not have electronic access to their own information. The University of California has already agreed to give us access to their 1600 technologies if we give them electronic access to the result. If we complete this transaction we believe other large organizations will follow.

## PRODUCT STATUS

As noted, the USET online system now exists in prototype form. In order to have reached this stage of development, we:

1. Fixed the design of the product;
2. Identified over 350 organizations with a licensable technology portfolios;
3. Established an efficient means of accumulating all identified portfolios; and
4. Completed software which enables simple personal computer searching of the accumulated information.

## PERCEIVED MARKET POTENTIAL

A saleable product exists now though it will be continually enhanced as long as it is pursued. A strong marketing strategy is needed to put the product in the hands of the private sector consumers identified above. Based on the modest success of the Dvorkowitz and Patterson databases, we have concluded that selling annual subscriptions for unlimited use of the online system is a better approach than selling time on an hourly basis. Indeed, if we were to sell online time, we could probably negotiate an arrangement with an online vendor such as ORBIT or COMPUSERVE. However, we do not believe this will maximize potential profits.

Starting with the Dvorkowitz and Patterson databases and their subscription marketing approach, we have concluded that the comprehensiveness of the USET online system will assure a far greater revenue stream than either. It is assumed that if the superiority of the USET online system is convened to its potential consumers by vigorous marketing, that our product should be sold to at least the 125 Dvorkowitz clients at a price at least equal to that Patterson charges his clients (30K). These minimum estimates produce a revenue stream of 30K multiplied by 125 or $3.75 million annually.

However, we believe that 125 clients is extremely modest for a database intended to be as timely and comprehensive as USET's. Based on a number of conversations with technology managers, we do not believe it to be unrealistic to target potential clients to over 1000 at a price in excess of

30K. We base this on the belief that the database should create savings to subscribers over that which they themselves would have to incur to find the same information. Considering the way targeted consumers are organized, it does not appear possible that they are able to maintain contact with the 350 technology portfolios we have targeted for accumulation. The lower end of this second scenario gives a revenue stream of $30 million annually (1000 x 30K).

With a potential revenue stream of this magnitude, we believe that a large portion of funds available for operation should be earmarked for marketing through an organization with proven experience in the area. The marketing strategy should be worked out in negotiations with Capitol Systems Group. However, we have included one cost option for marketing in the financial strategy that follows.

## FINANCIAL STRATEGY FOR BUILDING AND MAINTAINING THE USET DATABASE

**Summary**

The following table and attached notes and tables present the resources we believe will be required for the creation, sale and maintenance of an effective database of licensable technology. This estimate is based on the best information currently available and the investment parameters previously established in consultation with Capitol Systems Group (CSG). The $420K set aside for the Database Development Group below falls within the range of costs suggested by CSG for the data creation portion of the initiative. Marketing, administration and royalty costs are intended to be mostly tied to revenue, while the CSG costs assigned to CSG staff may be absorbable by existing personnel.

**Four Year Operating Statement for Database Program**

| | 1ST YR | 2ND YR | 3RD YR | 4TH YR |
|---|---|---|---|---|
| **SUBSCRIPTION REVENUE (A)** | 1500 | 3450 | 8100 | 12900 |
| **COST OF SALES** | | | | |
| Marketing (B) | 1190 | 1971 | 4089 | 4862 |
| Capital Systems Group (C) | 325 | 225 | 250 | 280 |
| Database Development Group (D) | 420 | 480 | 540 | 660 |
| Administration (5% revenue) (E) | 75 | 173 | 405 | 645 |
| Royalties (F) | 75 | 173 | 405 | 645 |
| Depreciation | 50 | 50 | 50 | 50 |
| **TOTAL COST** | 2135 | 3072 | 5739 | 7142 |
| **NET PROFIT** | (635) | 378 | 2361 | 5758 |

**Footnotes to Financial Table**

**(A) Revenue Projections for Years 1 Through 4:**

| | 1990 | | 1991 | | 1992 | | 1993 | |
|---|---|---|---|---|---|---|---|---|
| YEAR 1 (100 COMPANIES) | 3000 | | 2400 | | 2100 | | 2100 | |
| (ACTUAL) | | **1500** | | **1200** | | **1050** | | **1050** |
| YEAR 2 (150 ADDITIONAL) | | | 4500 | | 3600 | | 3300 | |
| (ACTUAL) | | | | **2250** | | **1800** | | **1650** |
| YEAR 3 (350 ADDITIONAL) | | | | | 10500 | | 8400 | |
| (ACTUAL) | | | | | | **5250** | | **4200** |
| YEAR 4 (400 ADDITIONAL) | | | | | | | 12000 | |
| (ACTUAL) | | | | | | | | **6000** |
| **TOTAL INCOME** | | **1500** | | **3450** | | **8100** | | **12900** |

- o Assumes annual subscriptions at $30,000.
- o Assumes sales will equal 50% of projection; 80% renew after first year; 90% of those after second year, 100% thereafter.
- o After Year 4, sales should reach the 1000 customer goal with resultant sales of $30,000,000 or over.

**(B) Marketing Costs:**

The marketing plan must be worked out with the assistance of Capital Group Systems and other marketing professionals. For purposes of this plan we assumed that the marketing function consists of the Director of Marketing and three support people. The sales effort would be performed by TELEMARKETING and/or independent agents on a commission basis. Commission is included at 33% on new subscriptions and at 10% on subscriptions renewals.

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|
| **MARKETING STAFF EXPENSES** | 200 | 407 | 434 | 447 | 467 | 487 | 505 |
| **COMMISSIONS **** | | | | | | | |
| 1st year sales | 990 | 79 | 71 | 71 | 71 | 71 | 71 |
| 2nd year sales | | 1485 | 119 | 107 | 107 | 107 | 107 |
| 3rd year sales | | | 3465 | 277 | 249 | 249 | 249 |
| 4th year sales | | | | 3960 | 317 | 285 | 285 |
| **TOTAL** | 990 | 1564 | 3655 | 4415 | 744 | 712 | 712 |
| **TOTAL MARKETING COSTS** | **1190** | **1971** | **4089** | **4862** | **1211** | **1199** | **1217** |

**(C) Software Development, Maintenance and Improvement:**

The Capital Systems Group will be responsible for software development maintenance and improvement. Costs for the Group in the 1990 budget are calculated at a higher level than in subsequent years because of possible problems in getting the system entered in various consumer locations and shakedown of the central processing facility. In future years the work will be essentially maintenance and some improvements as needed. Alternatively, we could attempt to retain the services of the USET Houston software staff on a royalty basis. Whether or not this is a viable alternative needs to be determined.

**(D) Database Development Group:**

The Database Development Group will constitute the center for the licensable technology database business. Data accumulation, formatting, conversion and quality control will be the responsibility of this Group. In addition, the Group will be responsible for:

a. Responding to subscriber inquiries;
b. Providing other services to subscribers determined to be a necessary incentive to attract subscriptions; and
c. Coordinating necessary software development and maintenance of the electronic database with the Group ultimately assigned to software development.

These responsibilities are presently being performed by the USET Washington office at a salary level of approximately $225K (administration, rent, telephone, travel and other expenses are not included). This level of funding is sufficient only for continued building of the prototype. The $420K for 1990 presumes operating expenses to maintain a marketed product. The management component of the group includes the present Director and Deputy of the existing USET Washington office.

The following is how we recommend expanding staff to meet the demands of a marketed product:

| | Management | Database Operations | Total |
|---|---|---|---|
| 1990 | 3 | 4 | 7 |
| 1991 | 3 | 5 | 8 |
| 1992 | 3 | 6 | 9 |
| 1993 | 3 | 7 | 10 |

**(E) General Administration:**

It is assumed that the general administration will be handled out of Capital Systems Group.

**(F) Royalties:**

Royalties of 5% of revenues will go to MCC as part of the purchase price for a license to software and ownership of the database and a small amount to Plenum, Inc. and NTIS for electronic information intended for use in the database.