



FIATECH

OUTLOOK 2007 - 2010

FIATECH is a consortium of leading capital project industry stakeholders. FIATECH was created in 2000 and is a separately funded initiative of the Construction Industry Institute (CII), at The University of Texas at Austin.

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Background

FIATECH has maintained a leadership position among industry organizations focusing on capital intensive projects since July 2000.

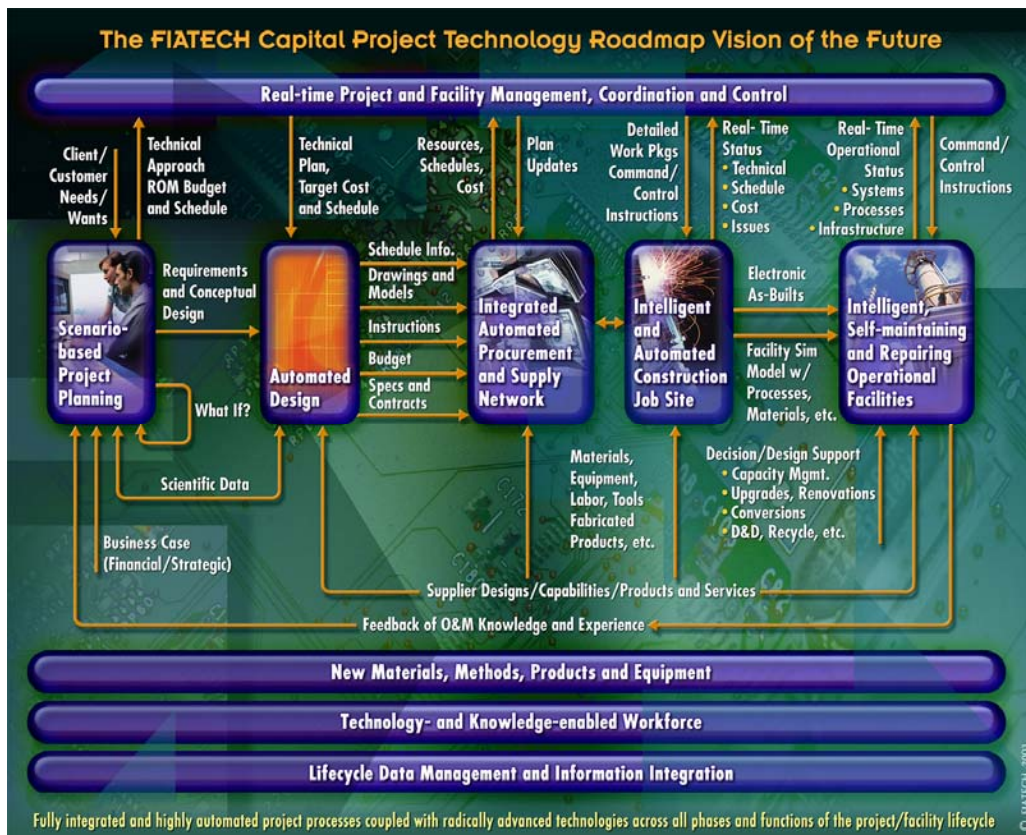
Founded under the auspices of the University of Texas at Austin, FIATECH has made significant headway against its initial objectives as described in its founding charter; namely, to establish a comprehensive Capital Projects Technology Roadmap (Roadmap) that describes the operational context for a capital project, and to identify opportunities to apply technology that integrates and automates execution of capital projects more effectively.

Achieving FIATECH accomplishments to date has involved every industry segment participating in capital intensive projects from owner/operators, and engineering, procurement and construction (EPC) companies to architects, facility managers and university researchers. Technology and equipment manufacturers round out the complement of FIATECH members and project participants.

FIATECH's membership includes industry- leading companies and research institutions driving the use of technology to improve the bottom line of capital projects.

Vigorous executive participation from member companies and institutions keep the bottom line focus front and center to create premium member value.

FIATECH is a consortium first and foremost. Members work together on projects to accomplish goals that otherwise they might not achieve individually.



As a result of mapping of the end-to-end description of a capital project, FIATECH has developed valuable insights to sharpen focus on application of new technologies.

For example, our Smart Chips project explores the value of RFID technology at the work site in areas ranging from material control to structural strength determination.

Competing for new members and retaining current members compel FIATECH to sharpen its focus on market-driven value and the promotion and development of products and services that distinguish FIATECH's value.

FIATECH is a consortium first and foremost. Members work together on projects to accomplish goals that otherwise they might not achieve individually. Organized around mutually-agreed priorities and points of need on the Roadmap, these projects accelerate the development and adoption of technologies that automate integration of the selected Roadmap elements.

All members share in the deliverables from each project. These deliverables include all forms of intellectual property (IP) ranging from technology forecasts, to XML schemas for data interchange, to field reports of on-site tests of the latest technologies.

The Roadmap provides the foundation for the overarching vision of FIATECH and significant effort has gone into describing Roadmap details within the nine strategic, element areas. The Roadmap, developed in early FIATECH projects, pointed the way forward with respect to refining FIATECH's role in the industry, the value that FIATECH can bring to its members and what changes FIATECH needs to make to fulfill its emerging role.

Strategic Outlook

FIATECH has entered a new phase of its evolution as an organization. Building on lessons learned in the last six years the organization intends to make the following transitions regarding growing membership value.

1. Move from a charter driven focus to a market driven focus.

Like many industry groups, FIATECH has maintained a very broad view of its charter to fully integrate and automate business processes comprising a capital project. However the issues of growing membership and ensuring loyalty of current members drive the management team to consider which programs and projects build membership value.

In addition, FIATECH needs to compete for membership with other organizations whose charters overlap with FIATECH's and it needs to have a value proposition that makes a winning argument for FIATECH membership.

Both factors compel FIATECH to take a market approach to establishing what to do, when to do it and for which constituency. This means thinking and acting like a company providing products and services to the target markets that help sustain FIATECH's market momentum, reinforce its market position and get the member participation needed to realize its growth objectives.

2. Grow wider industry participation from important but under-participating industry segments.

Currently, FIATECH membership is over-weighted in the process manufacturing industry. Achieving its growth objectives requires FIATECH to seek out companies serving additional capital project markets. We have identified these segments and growth objectives in the marketing section.

3. Increase membership value and loyalty through acquisition and creation of intellectual property (IP).

Like any company FIATECH must compete for new members and retain current ones. We intend to create our competitive edge by providing members with access to high value IP developed to meet their needs and the needs of the capital projects participants and that fills gaps in both knowledge and technology not available from commercial markets.

We will create some IP through member-directed projects and will acquire additional IP by cooperation with allied industry organizations or direct acquisition.

Examples of IP resulting from FIATECH member-focused projects include:

- XML reference data libraries used for the procurement of equipment such as hydraulic pumps and control valves.
- Field studies on the use of RFID technology in applications ranging from concrete cure rates to gang box loss prevention.
- Reference implementations designed to accelerate the adoption of ISO 15926 for equipment life cycle data exchange.

4. Align products and services to reinforce FIATECH's bottom-line value to members.

Part of making the transformation to a market-based focus requires us to think in terms of products and services that have premium value to our members.

We will accomplish this by concentrating on IP development that does **not compete** with commercial activities serving capital projects but will focus on: (a) technology that promotes connectivity among work processes within capital projects and, (b) evaluation of emerging technologies regarding their efficacy in capital project applications.

5. Differentiate FIATECH from similar organizations by claiming strategic Roadmap Element #3 – Integrated, Automated Procurement and Supply Networks – an area of special focus.

While FIATECH has a broad vision, we intend to focus on strategic Element #3 as a starting place and we will focus on interoperability technology that relieves constraints and bottlenecks in the supply chain.

This element of the Roadmap has significant value to our membership and provides FIATECH with the opportunity to establish a unique position in an area that remains unexploited by allied organizations.

This does not diminish our enthusiasm for other elements on the Roadmap. We feel that FIATECH needs to establish a competitive edge and delivering member value in this area gives FIATECH that opportunity.

6. Put in place the resources and business processes required for making the transition to the evolving business model.

The last part of the transformation requires organizing to execute against our objectives to provide tangible membership value.

This will affect all our business processes from how we identify and manage the development of IP, to how we charge for membership and for access to IP, to how we market to new members.

While this is an evolutionary process, we will organize along the lines developed in this document and build upon successes we have achieved to date.

U.S. capital project spending for services, materials and equipment is running at a \$1.2 trillion annual rate for 2006.

The remainder of this document addresses the material issues to making the transformations cited above. We have approached the discussion regarding these business objectives in the form of a multi-year outlook adapted for an organization such as FIATECH while trying to maintain a strong business focus in keeping with the nature of FIATECH's evolution.



Market Size and Segmentation

FIATECH's market comprises organizations engaged in capital intensive public and private sector projects. The scope of these projects ranges from highway and public infrastructure to private construction projects in the U.S. and abroad, including both plant and equipment.

FIATECH members include all stakeholders in a capital project:

- Owners/Operators
- Engineering, Procurement and Constructors
- Architects
- Equipment Manufacturers
- Facility Managers
- Technology Developers
- Universities and Researchers
- Allied Organizations

The market for U.S.-based firms has remained very strong for the last four years. Revenues for 2005 grew 12% over the prior year and new contracts grew at a 20% rate. Profits from domestic projects grew 3.5%, and international projects returned 11% during 2005. Forty percent of top tier companies report backlog growth that makes for favorable market conditions in the near term.

Capital projects spending in the U.S. breaks down along private and public funded projects at spending rates that exceed one trillion dollars per year.

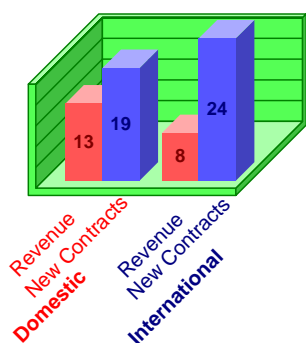
The top U.S. spending categories for 2005 in the private sector include:

1. Commercial
2. Office
3. Manufacturing
4. Power
5. Healthcare

The top U.S. spending categories for 2005 in the public sector include:

1. Highways and streets
2. Education
3. Transportation
4. Sewage and waste disposal
5. Water supply

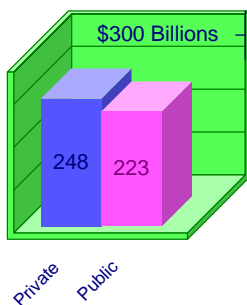
Per Cent Revenue Growth
U.S. Based Companies



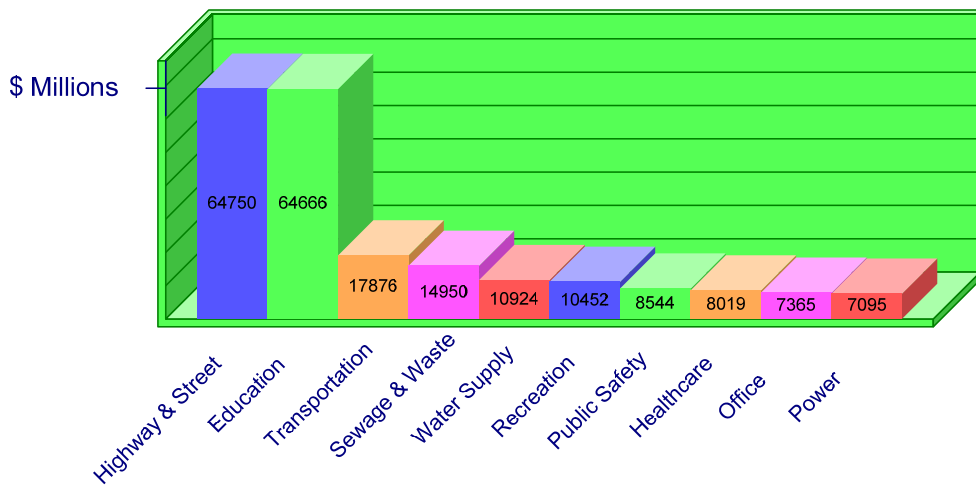
Market segmentation and performance statistics used in this section come from U.S. government sources and Engineering News Record reports.

The following graphics depict the market segmentation and spending rates for 2005 for both the public and private sectors:

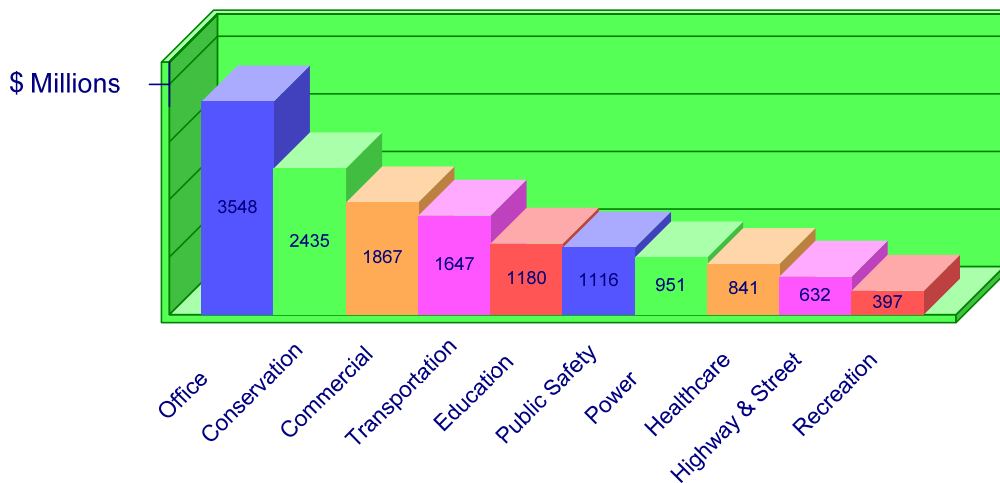
Private capital projects lead U.S. spending by \$25 billions.



U.S. State and Local Capital Spending - 2005



U.S. Federal Capital Spending - 2005



FIATECH Target Market Segments

FIATECH provides value to all companies engaged in capital intensive projects and solicits these companies to join FIATECH.

FIATECH brings special focus on the following segments to build membership and to fund operations over the next 18 to 24 months.

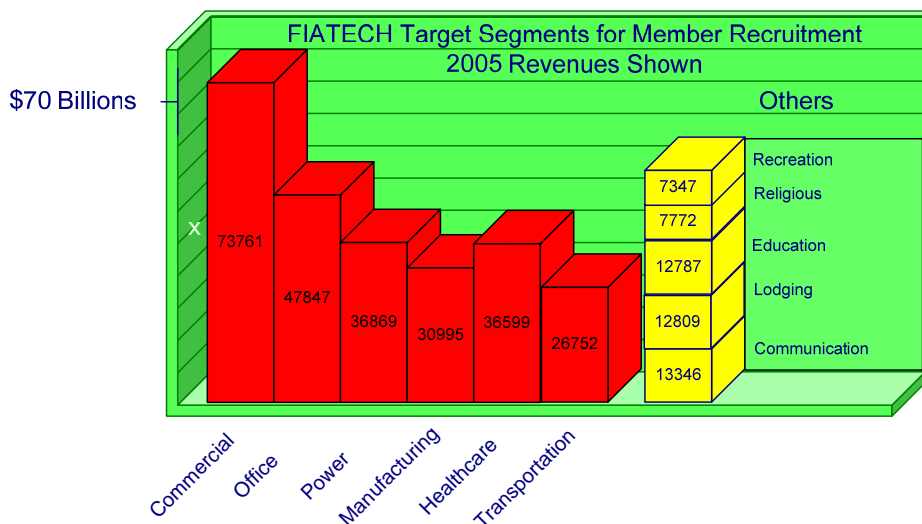
- Commercial
- Office
- Power
- Manufacturing
- Healthcare
- Transportation

FIATECH will make a special effort to focus its plans and programs around specific work processes and technologies that have the greatest impact on these market segments.

FIATECH has focused on non-residential capital projects to date and will continue that focus for the immediate future.

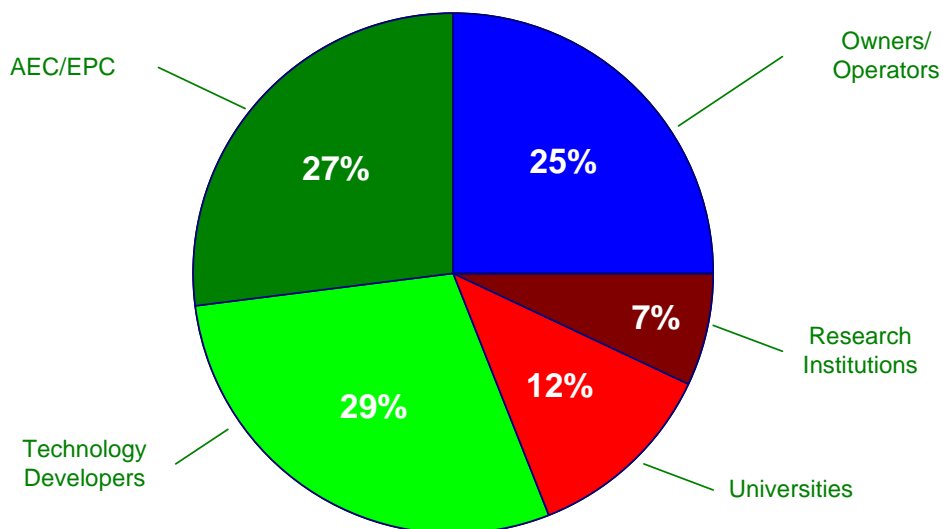
Commercial, office, discrete manufacturing and transportation market segments represent areas of immediate interest for member recruitment.

Healthcare represents a significant segment and merits future effort for member recruitment.



FIATECH Target Stakeholders

FIATECH membership breaks down along the lines depicted in the following graph.



FIATECH Member Distribution

We have targeted the stakeholder categories listed below as the lead market influencers in capital intensive projects who have a vital interest in being part of FIATECH.

1. Owners/Operators
2. AEC/EPC (Architect, Engineer, Construction, Procurement)
3. Technology Developers

We expect the remaining stakeholders will follow the lead of the primary target groups and join FIATECH through attraction and awareness created by the primary targets. These include:

1. Architects
2. Facility Management Companies
3. Equipment Manufacturers

The next section shows those companies representing the leaders in each of the stakeholder categories for owners/operators and AEC/EPCs, and forms the target list for enrollment into FIATECH during the planning period.

Owners/Operators

FIATECH answers these needs by finding new sources of value.

".....owners worry that current cost cutting procedures used by design firms will not last....."

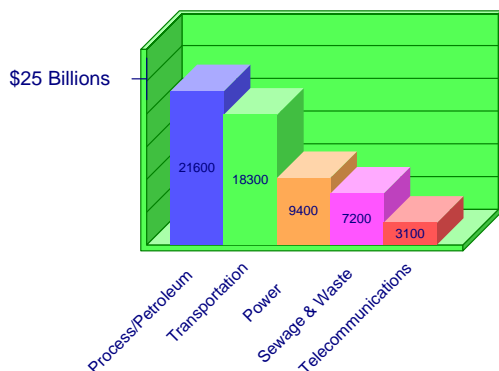
....The problem is demonstrating the return on investment. Contractors are going to want hard numbers to justify the expense."ENR 2006

- 1 CALPINE CORP., San Jose, Calif.
- 2 GENERAL MOTORS CORP., Detroit, Mich.
- 3 WYETH, Madison, N.J.
- 4 ELI LILLY & CO., Indianapolis, Ind.
- 5 PFIZER INC., New York, N.Y.
- 6 FORD MOTOR CO., Dearborn, Mich.
- 7  INTEL CORP., Santa Clara, Calif.
- 8 PUBLIC SERVICE ENTERPRISES GROUP INC., Newark, N.J.
- 9 JOHNSON & JOHNSON, New Brunswick, N.J.
- 10 SOUTHERN CO., Atlanta, Ga.
- 11 VERIZON COMMUNICATIONS, New York, N.Y.
- 12 MERCK & CO., Whitehouse Station, N.J.
- 13 WYNN RESORTS LTD., Las Vegas, Nev.
- 14 FPL GROUP INC., Juno Beach, Fla.
- 15 HOME DEPOT INC., Atlanta, Ga.
- 16 CONSOLIDATED EDISON INC., New York, N.Y.
- 17 AMGEN INC., Thousand Oaks, Calif.
- 18 ALTRIA GROUP INC., New York, N.Y.
- 19 ALCOA INC., Pittsburgh, Pa.
- 20 ENTERGY CORP., New Orleans, La.
- 21 AMERICAN ELECTRIC POWER, Columbus, Ohio
- 22  DOW CHEMICAL, Midland, Mich.
- 23 ABBOTT LABORATORIES, Abbott Park, Ill.
- 24  TARGET CORP., Minneapolis, Minn.
- 25 NEXTEL COMMUNICATIONS, Reston, Va.
- 26  E.I. DU PONT DE NEMOURS, Wilmington, Del.
- 27 BOEING CO., Chicago, Ill.
- 28 AES CORP., Arlington, Va.
- 29 CORNING INC., Corning, N.Y.
- 30 SCHERING-PLOUGH, Kenilworth, N.J.
- 31 EL PASO CORP., Houston, Texas
- 32 PROGRESS ENERGY INC., Raleigh, N.C.
- 33 EDISON INTERNATIONAL, Rosemead, Calif.
- 34 AMEREN CORP., St. Louis, Mo.
- 35 PEPSICO INC., Purchase, N.Y.
- 36 XCEL ENERGY INC., Minneapolis, Minn.
- 37 DUKE ENERGY CORP., Charlotte, N.C.
- 38 FIRSTENERGY CORP., Akron, Ohio
- 39 HCA INC., Nashville, Tenn.
- 40 DOMINION RESOURCES INC., Richmond, Va.
- 41 BAXTER INTERNATIONAL INC., Deerfield, Ill.
- 42 KRAFT FOODS INC., Northfield, Ill.
- 43 DELPHI CORP., Troy, Mich.
- 44 WISCONSIN ENERGY CORP., Milwaukee, Wis.
- 45 EXELON CORP., Chicago, Ill.
- 46 ADVANCED MICRO DEVICES, Sunnyvale, Calif.
- 47 CATERPILLAR INC., Peoria, Ill.
- 48 BRISTOL MYERS SQUIBB, New York, N.Y.
- 49 KROGER CO., Cincinnati, Ohio
- 50 UNITED PARCEL SERVICE INC., Atlanta, Ga.

 Indicates FIATECH Member

AECs/EPCs

Top Construction Revenues in 2005



◆ Indicates FIATECH Member

- 1 ◆ BECHTEL
- 2 CENTEX
- 3 ◆ FLUOR CORP.
- 4 PERINI CORP.
- 5 THE TURNER CORP.
- 6 ◆ JACOBS
- 7 BOVIS LEND LEASE
- 8 SKANSKA USA INC.
- 9 KIEWIT CORP.
- 10 PCL CONSTRUCTION ENTERPRISES INC.
- 11 ◆ KBR
- 12 THE WHITING-TURNER CONTRACTING CO.
- 13 CB&I
- 14 SWINERTON INC.
- 15 THE WALSH GROUP LTD.
- 16 STRUCTURE TONE INC.
- 17 GILBANE BUILDING CO.
- 18 FOSTER WHEELER LTD.
- 19 CLARK GROUP
- 20 J.E. DUNN CONSTRUCTION GROUP
- 21 WASHINGTON GROUP INTERNATIONAL
- 22 THE YATES COS. INC.
- 23 MCCARTHY BUILDING COS. INC.
- 24 BRASFIELD & GORRIE LLC
- 25 GRANITE CONSTRUCTION INC.
- 26 BLACK & VEATCH
- 27 APAC
- 28 OPUS GROUP
- 29 HENSEL PHELPS CONSTRUCTION CO.
- 30 WEBCOR BUILDERS
- 31 DPR CONSTRUCTION INC.
- 32 HOFFMAN CORP.
- 33 HUNT CONSTRUCTION GROUP INC.
- 34 BARTON MALOW CO.
- 35 TIC HOLDINGS INC.
- 36 BE&K INC.
- 37 AUSTIN INDUSTRIES
- 38 THE WEITZ CO. LLC
- 39 SUFFOLK CONSTRUCTION CO. INC.
- 40 TUTOR-SALIBA CORP.
- 41 M.A. MORTENSON CO.
- 42 DAY & ZIMMERMANN GROUP
- 43 ALBERICI CORP.
- 44 MANHATTAN CONSTRUCTION CO.
- 45 THE FLINTCO COS. INC.
- 46 WALBRIDGE ALDINGER
- 47 PARSONS
- 48 ◆ ZACHRY CONSTRUCTION CORP.
- 49 KRAUS-ANDERSON CONSTRUCTION CO.
- 50 RYAN COS. US INC.



FIATECH Membership Value and Position

The section on market size and segmentation identified the organizations from which FIATECH derives its membership. We also identified the organization categories that we have targeted from which we want to grow our membership (principally owners/operators and AECs/EPCs).

The question we must answer next pertains to the value proposition FIATECH offers its membership. Why should our members stay with us and why should new members join FIATECH? Also, why should new members join FIATECH in the first place when they have a lot of choices respecting how they spend for organizational membership?

We need to answer these questions at two levels. First the values of membership at the industry level and then the values that make a promise worth a purchase (FIATECH positioning) for the executives that need to authorize spending for membership, program participation and acquisition of FIATECH products and services.

Why should our members stay with us and why should new members join FIATECH?

The FIATECH consortium provides a web of high-value relationships, connectivity solutions and real world learning that give FIATECH members a technology advantage they can take to the bank.

FIATECH Value Exchanges

We have chosen to look at the issue of membership value in terms of the benefits that flow throughout the FIATECH web created by membership and program participation. We have portrayed these value exchanges in the form of maps that depict the value exchange for each type of industry participant that comprises our membership base.

The questions posed in the diagram are answered by FIATECH membership.

The first diagram shows the value exchanges for the three principal target segments. FIATECH will place special emphasis on recruitment of new members from these groups.

- Owners/Operators
- AECs/EPCs
- Technology Developers

The second diagram depicts the value exchanges for the second tier targets:

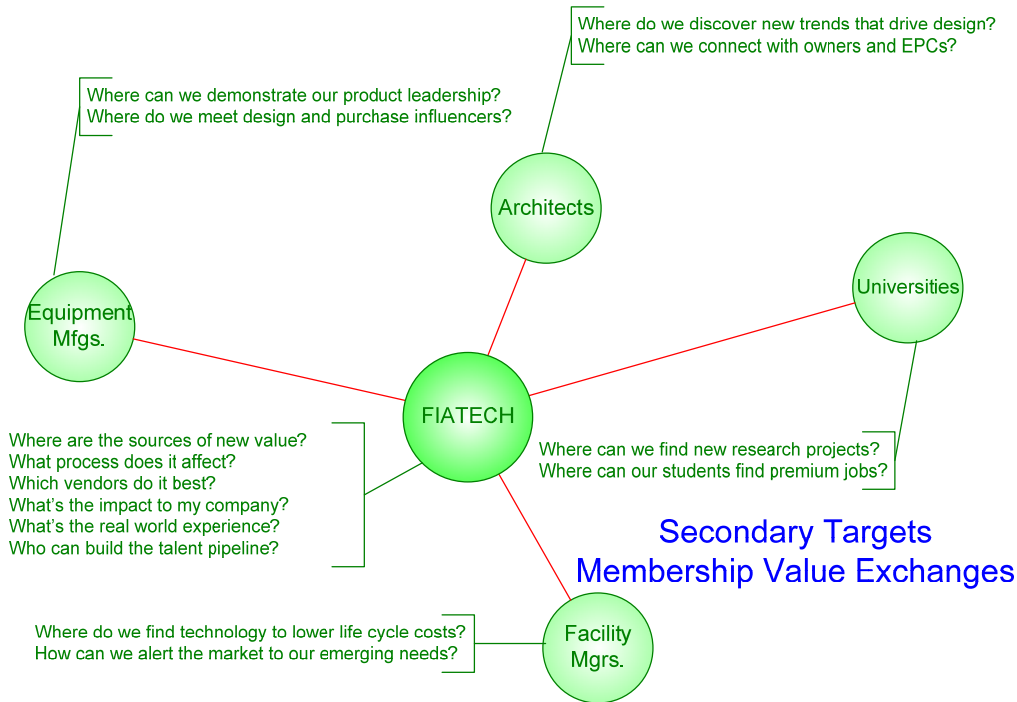
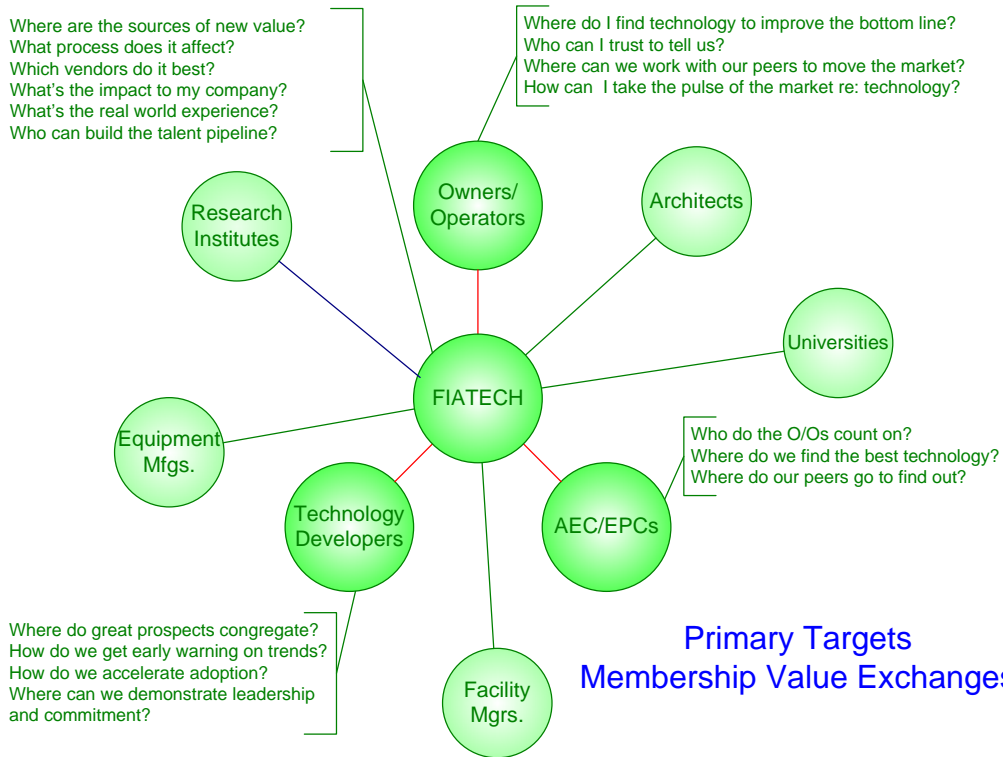
- Architects
- Equipment Manufacturers
- Facility Management Companies
- Universities
- Allied Organizations

FIATECH will infuse these value exchanges into its communications with the marketplace as it recruits new members and encourages current members to grow their commitment and participation.

FIATECH members continuously search for new ways to improve workflow within and across each element of the Roadmap.

They look for new ways to relieve constraints and bottlenecks that block the flow of information and hinder progress and drive costs up.

Sometimes this means doing things differently. Other times it means doing different things to accomplish the overriding goal of improving the bottom line.



FIATECH Positioning

Positioning FIATECH requires that we describe the following characteristics that clearly state what FIATECH stands for regarding its membership value and what we promise the market about membership value. We need to promote FIATECH over alternatives that decision makers have to spending for FIATECH membership. This statement also underlies FIATECH communication with its target markets and the decision makers in those markets.

FIATECH positioning encompasses four factors all of which must support one another to articulate a coherent position in its markets:

- **Target Decision Maker**

Who we want to speak to on an individual basis and what motives drive this individual to consider FIATECH membership.

- **Frame of Reference**

How does FIATECH describe itself? What group of organizations does FIATECH choose to associate with? By identifying with this group FIATECH ascribes to the good and bad connotations associated with this frame of reference.

- **Point of Difference**

What is the promise FIATECH makes that delivers distinctive value to the membership and justifies spending money with FIATECH as opposed to other alternatives?

- **Justification**

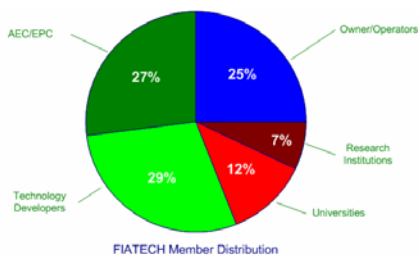
What proves the claim FIATECH makes regarding the point of difference?

It is important to note that positioning statements many times point the way toward value that companies want to build. The statement needs to have some grounding in current value creation; however, pointing to future differentiating value that the company will fulfill is very common.

FIATECH's position statement reads as follows:

For cost-conscious executives under pressure to select the best technologies to improve their bottom line, FIATECH is the capital projects industry-action group that makes the highest impact on delivering successful enterprise connectivity and work-site technology solutions, because our member-driven projects produce the most comprehensive collection of technology assets available from any industry organization.

The operative ideas in this statement point to the bottom-line concerns of executives who are on the frontline of their companies' operations and whose decisions respecting what technologies they select have significant impact on operating results. These are the people who make the decision to join FIATECH and seek its benefits.



FIATECH plans to grow its membership by 20% principally from owners/operators and AECs/EPCs.

The **frame of reference** describes FIATECH as an industry action group. We have consciously avoided the declaration of being an association and we are examining the Detroit-based Automotive Industries Action Group (AIAG) as an organization to model ourselves after. AIAG organized to take on the incompatibilities among automotive suppliers and to overcome the inertia of the top tier major automotive companies whose indecision and parochialism cost the next four tiers in the supply chain dearly in terms of technology investment and interoperability.

The **point of difference** identifies FIATECH as focused on technologies that deliver results in many dimensions; cost, schedule, and human resources. We focus particularly on those technologies that relieve constraints and bottlenecks at the point-of-need wherever they appear throughout the Roadmap that defines FIATECH's vision. The point-of-need approach speaks to the practicality and impact that FIATECH maintains at the core of its operations.

FIATECH has a broad strategic vision and a common sense way to get there.

Connectivity refers to technologies that relieve constraints and bottlenecks in the process flow of information between and among applications used throughout the lifecycle of capital projects. The Automating Equipment Information Exchange (AEX) represents a great example of a FIATECH product that authenticates this claim.

Worksite technology is best exemplified by FIATECH^{IN-SITES} that describe important learning about the efficacy of a variety of technologies at the worksite.

The **justification** has to pay off the claim made by the third statement. FIATECH has started to build an impressive collection of connectivity products and worksite technology know-how. While this collection of intellectual property makes a good start, it does not represent a preemptive advantage for FIATECH. This document proposes to set in place a plan for extending and maintaining this advantage as a key payoff to membership.

The Elevator Speech

The positioning statement begets the elevator speech because we have now boiled down the value of FIATECH to concise elements that portray the value of membership. Here is a candidate set of questions and answers that can form the elevator speech answer to three important questions:

Q: What is FIATECH?

A: FIATECH is a formidable collection of industry leading companies that are engaged in capital intensive projects, and who have organized to accelerate the discovery, evaluation and implementation of technologies to improve their bottom line.

Q: Why should our company join FIATECH?

A: FIATECH actively pursues development and collection of premium-value intellectual property (IP) that gets shared among our members. The IP comes in many forms but principally we discover and evaluate technologies at two levels:

1. High impact technologies that relieve constraints and bottlenecks wherever they surface across all dimensions of a capital project. For example, we have ongoing initiatives looking at the application of disposable micro sensors and RFID technology.

Target Decision Maker:

For cost-conscious executives under pressure to select the best technologies to improve their bottom line...

Frame of Reference:

...FIATECH is the capital projects industry-action group...

Point of Difference:

...that makes the highest impact on delivering successful enterprise connectivity and work-site technology solutions...

Justification:

...because our member-driven projects produce the most comprehensive collection of technology assets available from any industry organization.

2. We also have a growing repository of connectivity-enabling technology that speeds the effective use of new applications by providing industry-accepted definitions of data elements commonly exchanged among applications. For example, we build data element libraries that implement the ISO 15296 vision for data interchange. Our AEX project makes a rich set of XML descriptions for equipment available for use by our members. Our first effort in this area developed an XML encoded reference library describing hydraulic pumps.

We have a particular focus on the purchasing cycle because of its strategic importance to achieving bottom-line results. Our vision maps provide industry leadership and context for nine strategic elements that comprise capital projects. Allied industry groups focus on many of these elements but FIATECH stands out with respect to integrating and automating procurement and supply processes.

In addition, FIATECH members identify areas of opportunity that have particular importance to their businesses and then jointly participate in development of the IP that makes FIATECH membership so valuable.

Q: What does FIATECH stand for?

A: Originally it stood for Fully Integrated and Automated Technology. Since then, the industry's focus has shifted to accelerating the deployment and bottom-line value of advanced technology. To refresh our brand value we use the Latin word FIAT that means let-it-be-done as a prefix to technology. FIAT – TECH stands for our mission to improve the bottom line of capital intensive projects using technology. Hence we have given the acronym FIATECH new meaning – getting it done with technology.

FIATECH is a formidable collection of industry leading companies engaged in capital intensive projects.....

..... and who have organized to accelerate the discovery, evaluation and implementation of technologies that improve their bottom line.

The Case for Focus on the Supply Chain

The Strategic Outlook section cited six objectives that FIATECH needed to reach in the near term to achieve its organizational goals for membership growth and renewed member value.

The fifth objective calls for us to:

Differentiate FIATECH from similar organizations by claiming strategic Roadmap Element #3 – Integrated, Automated Procurement and Supply Networks – an area of special focus.

This proposition represents an aspiration for FIATECH, although some foundation elements exist in work we have completed or have in progress currently.

This recommendation stemmed from discussions along several axes: examining where FIATECH sits today with respect to overlap with peer organizations, what FIATECH has achieved to date and where it needs to go in the future, and what FIATECH has learned about program value to its membership.

The first consideration focused on the simple imperative that FIATECH needed to create value in an area that, when push came to shove, decision makers spent their membership money with FIATECH. We described this as a value that the membership could “take to the bank.” It’s not the only good thing about FIATECH but it’s one of those factors that helps push the membership decision in our favor.

Certain automakers use resale value or reliability in this way. It’s one of the elements built into their branding. By itself it does not make up for unappealing design but it does push the buyer over the edge, other things being equal.

As we considered the notion of differentiation and looked at the nine Roadmap elements, we realized that many of our projects had the common thread of connectivity in the supply chain. Just about all engineering documents flow through the procurement process for initial acquisition, management of change and handover. It’s a vital area for our members and one which has very measurable economic impact.

We had already decided that connectivity represented an important aspect of our product direction. We had a natural momentum building in **Strategic Roadmap Element #3**. This focus had some coherent aspects to it.

We also recognized that none of our peer organizations had focused on this element in general, much less as an area to create discernable value.

Last, we felt FIATECH has a big vision but it needed a way to get there. We had started building value in this area; and we should continue to build on that success.

We should reiterate that the recommendation is not to focus solely on this area but to increase our activity regarding connectivity products in this area. Other FIATECH products (Vision Maps, Technology Forecasts, and In-Sites) would have a broader horizon. And, as we have stated earlier, these products would focus on areas of opportunity wherever they appeared in our nine strategic areas.

We feel that this area delivers on the promise to give our members an edge that they can measure and take to the bank. And it makes a promise worth a purchase regarding FIATECH membership.



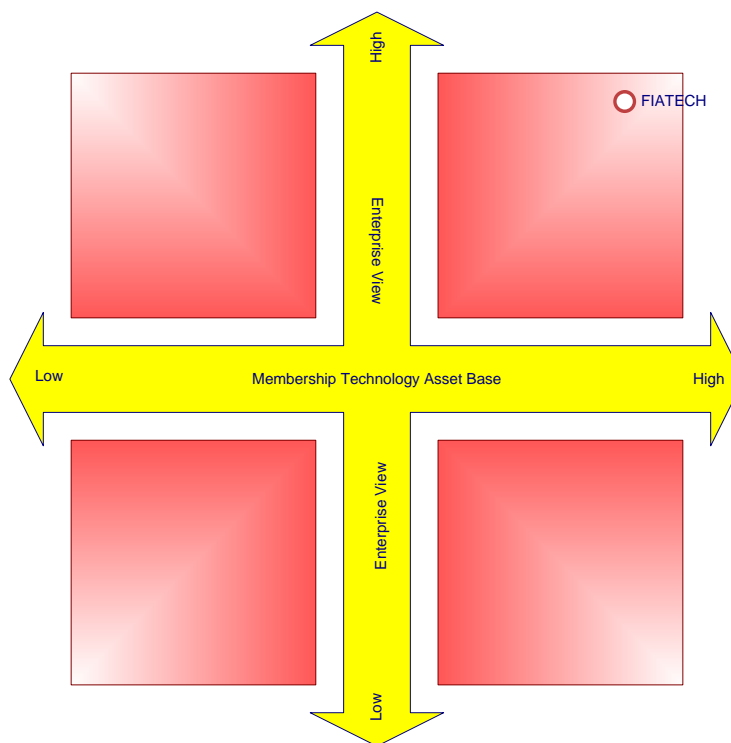
Market Position

Organizations like FIATECH do not typically talk in terms of market competition. However pressures on potential members for both monetary and human resources make thinking competitively important to meeting the membership objectives set for FIATECH.

Allied organizations have many characteristics in common with FIATECH. It's the differences that will push the decision in FIATECH's favor. We have chosen to position FIATECH on two axes of differentiation;

- Enterprise vision
- Membership access to valuable intellectual property

Achieving a dominant position on these two fronts and maintaining parity in other dimensions provides a premium return-on-membership for companies and individuals participating in FIATECH programs and availing themselves of FIATECH products.



The preceding chart depicts our judgment of how FIATECH creates value for its members and can be used as a tool in creating alliances with other industry organizations where complementary relationships exist that fill in areas of need for FIATECH members and avoid wasteful duplication of efforts.

The following chart depicts how some of these alliances fit into the Roadmap and also shows which organizations FIATECH wants to formalize a relationship with in the near future.

FIATECH Alliance Opportunity Matrix	
Scenario-Based Project Planning	1
Automated Design	2 ○ AIA ○ CIFE
Integrated Automated Procurement and Supply Network	3 ○ PIP
Intelligent and Automated Construction Jobsite	4 ○ COMIT ○ SPAR POINT ○ CEFI
Intelligent Self-maintaining and Repairing Operational Facility	5 ○ COMIT ○ OPEN O&M ○ MIMOSA ○ OBIX ○ COBIE
Real-time Project and Facility Management Coordination and Control	6 ○ LCI
New Materials, Methods, Products & Equipment	7
Technology and Knowledge - Enabled Workforce	8 ○ CII ○ COMIT ○ CPWR ○ CURT ○ NCMS ○ AGC ○ NSF ○ DARATECH
Life Cycle Data Management & Information Integration	9 ○ KICTEP ○ POSC ○ CAESAR ○ IAI ○ CABA ○ USPI ○ NIBS ○ OGC ○ OSCRE

— Red Text Indicates Sign Agreement in 2007
 — Purple Text indicates Agreement in Place
 — Blue Text Indicates No Agreement



FIATECH Products

Product Precepts

As pointed out in the plan overview, part of creating renewable membership value and FIATECH's market approach requires thinking in terms of products and services. However the nature of the organization requires that we state FIATECH's principals regarding development of its products and services:

- **Enabling Technology and Knowledge**

FIATECH seeks to constantly point the way to technology that empowers its members to improve their bottom line performance on capital projects.

This means making the right connections and sharing the hard-won knowledge of what works best.

- **Member Driven Agenda**

FIATECH members set the agenda for development of IP. This is accomplished by using the high level Roadmaps to provide context for development. Roadmap champions are members who represent the FIATECH community regarding each of the strategic elements in the Roadmap. The Roadmap champions consolidate member's inputs and make recommendations regarding project direction.

Another development path within the FIATECH process is open to member companies that have a special interest in a specific work process or technology. They may form and fund a project group to explore the particular technology of interest and add the IP to the FIATECH technology asset base.

- **Acceleration of Capital Project Workflow**

The manufacturing industry has set the standard for companies engaged in capital intensive projects. Acceleration of flow in manufacturing remains a core tenet of performance improvement regarding management of assets, optimization of capacity and profit achievement.

FIATECH strives to accomplish these same goals regarding the net effects of its IP development. Connectivity solutions address the constraints and bottlenecks encountered in the flow of data through the capital project Roadmap elements. Technology assessments report on the impact of new technologies and products that relieve constraints and bottlenecks at the point of need on the worksite.

- **No Competition with Vendors**

A second precept is that FIATECH will not compete with commercial technology developers with respect to IP development. FIATECH's expression of this principal is reflected in its development of connectivity solutions that benefit the industry because they set the market expectations for the technology developers regarding interoperability.

A good example is the AEX project. This project defines the interchange standards for describing hydraulic pumps. Employing the latest XML technology, the AEX project provides an industry accepted standard for purchasing that technology vendors, alone, cannot establish.

- **Member Neutral Solutions**

FIATECH strives to direct its IP creation into areas that have maximum cross-industry application. Additionally we do not want to create competitive advantage of one member or member group over another.

FIATECH Product Categories

FIATECH has three fundamental product categories:

- **FIATECH^{VISIONMAPS}**

Visionmaps represent the foundation Roadmaps for each of the nine elements that comprise the end-to-end architecture of a capital project described as the CPTR – the Capital Projects Technology Roadmap. These Roadmaps represent the first products from FIATECH and comprise the work of professionals from all industry segments.

Vision mapping work requires continuous maintenance as the business processes within and among the strategic elements transform with new ways of managing the execution of a capital project.

Visionmaps are important to our members because they describe in detail the relationships among all capital project process elements and they provide context, perspective and a reference model for the work done by FIATECH and allied organizations.

- **FIATECH^{IN-SITES}**

In-Sites represent invaluable experience and know-how about technologies and products that FIATECH has gathered on the worksite in active construction projects. These collaborations among FIATECH members yield high leverage results in short periods of time. Risks, costs and effort are shared across participating members to the benefit of all members.

FIATECH's Smart Chips project, which examines the use of RFID technology in a host of construction scenarios from loss prevention in gang boxes to remote sensing of curing rates in concrete, represents a stellar example of a collection of **In-Sites**. These reports contain information about technology that companies can put to work immediately without the need to learn on their own.

- **FIATECH^{CONNECTS}**

FIATECH has engaged in a connectivity strategy that exploits the potential of emerging technologies for the rapid and efficient exchange of data among software applications. Web services and XML technologies have set the stage for business process integration with unparalleled ease and very low cost.

FIATECH connectivity-oriented projects focus on accelerating the deployment of standards, protocols, and guidelines that solve interoperability problems existing in member companies today. To do this, FIATECH identifies the most pressing connectivity issues the industry in general, and our members in particular, have. We identify the quickest, most efficacious solution to these problems and bring our resources to bear on solving them.

For example, our Automating Equipment Information Exchange (AEX) project is developing, demonstrating, and deploying eXtensible Markup Language (XML) specifications to automate information exchange for the design, procurement, delivery, operation, and maintenance of engineered equipment, from pumps to heat exchangers to valves.

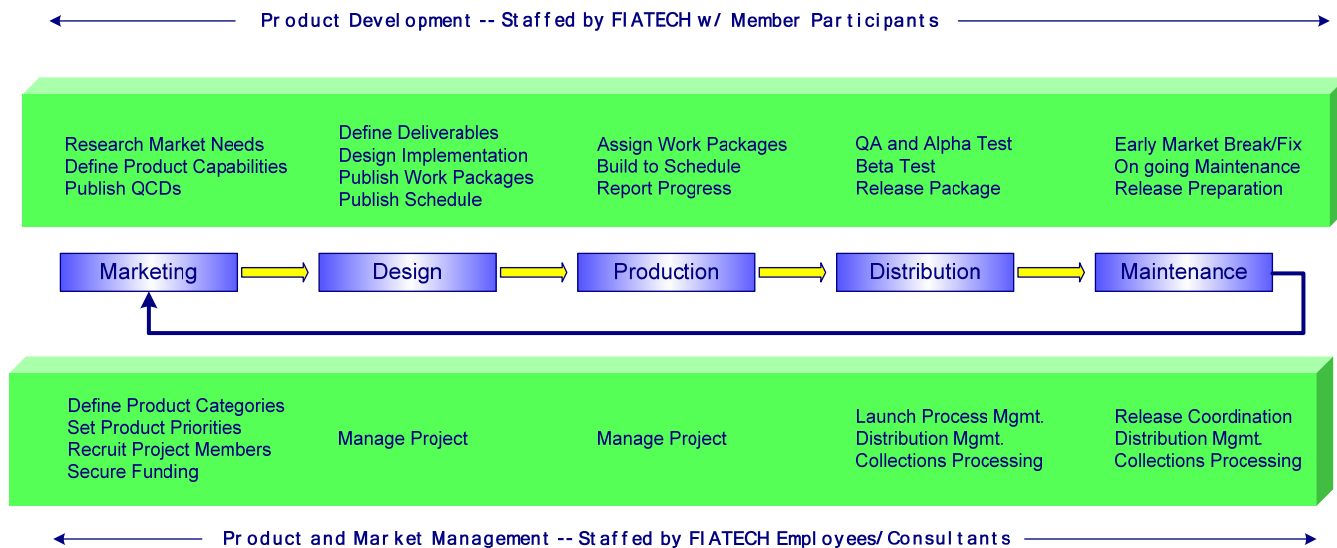
In another project, owners, EPCs and international valve suppliers and manufacturers collaborate to create a global valve cross-reference electronic catalog (GVCC). The GVCC builds upon the Process Industries Practices (PIP) reference valve catalog and FIATECH's automating equipment information exchange (AEX) XML protocols and will be delivered to sponsors via a dedicated web site. The GVCC web site will enable participating companies to automatically cross-match their internal valve catalogs and technical specifications with their business collaboration partners via a common cross-match to an electronic version of the PIP valve catalog.

In yet another project, Accelerating the Deployment of ISO 15926 (ADI), owners, EPCs, equipment suppliers, and software suppliers are collaborating to create life cycle information models based on an initial set of reference data, develop most common software tools and methodology, and gain experience in integration of life cycle data between different software systems and different companies. The project is using the ISO Standard 15926 for process industry life cycle information integration as a foundation to establish an online Work-In-Progress (WIP) ISO 15926 Repository that is continuously evolving with input from the domain experts for the information models and state-of-the-art software tools and methodology. Connectivity products have high value potential at many points in our Roadmaps. They have immediate value in the purchasing applications inside the supply chain.

Product Development Process

FIATECH^{CONNECTS} have a development process tailored to the development of point-of-need connectivity products. The development flow depicted below reflects

Business Process Flow for FIATECH Products similar to AEX, and GVCC



a commercial development process modified for FIATECH’s organizational structure. Each of the elements have special context regarding how resources are allocated across FIATECH professional staff and personnel from membership organizations. Currently member organizations donate their employee’s time to the project. Over time FIATECH intends to staff projects with resident professional staff or contract staff brought on board for the project’s duration.

Marketing leads the process by turning market needs into product requirements which are resolved to a set of **Quality** standards, **Cost** allocations and **Deliverables** schedules (**QCDs**) that define the management envelope for the development cycle.

The design phase defines the discrete deliverables comprising the product in the form of product specifications and associates project work packages with personnel resources and production schedules.

Production and design phases for software development tend to merge depending on software development techniques employed by the design and software engineering team.

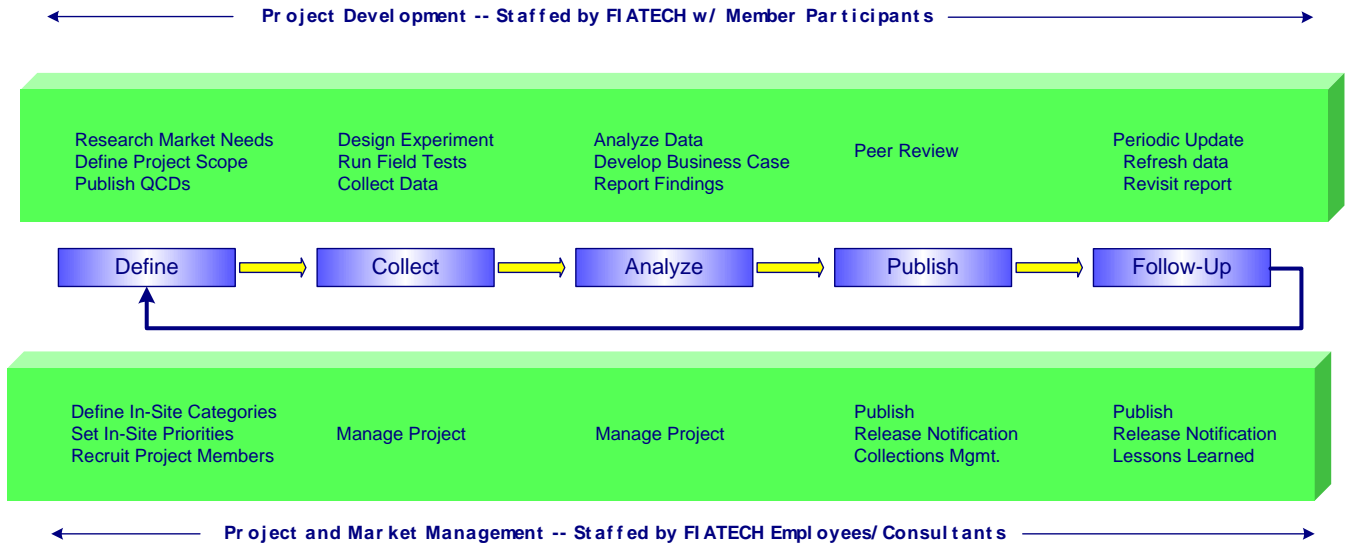
Distribution encompasses the process of selling products in a manner consistent with a professional organization using web-based techniques for creating awareness and fulfilling sales requests.

Software products require maintenance and enhancement to sustain their value in the market.

As we take this model to market, FIATECH will outsource distribution and maintenance to a product launch company that can provide the continuity and variable costs structure needed to deliver these products at minimal risk to FIATECH.

The next graphic depicts the development process for **FIATECH^{IN-SITE}** products. We have modified the basic process to reflect the nature of a primary research project intended for sale on a subscription basis.

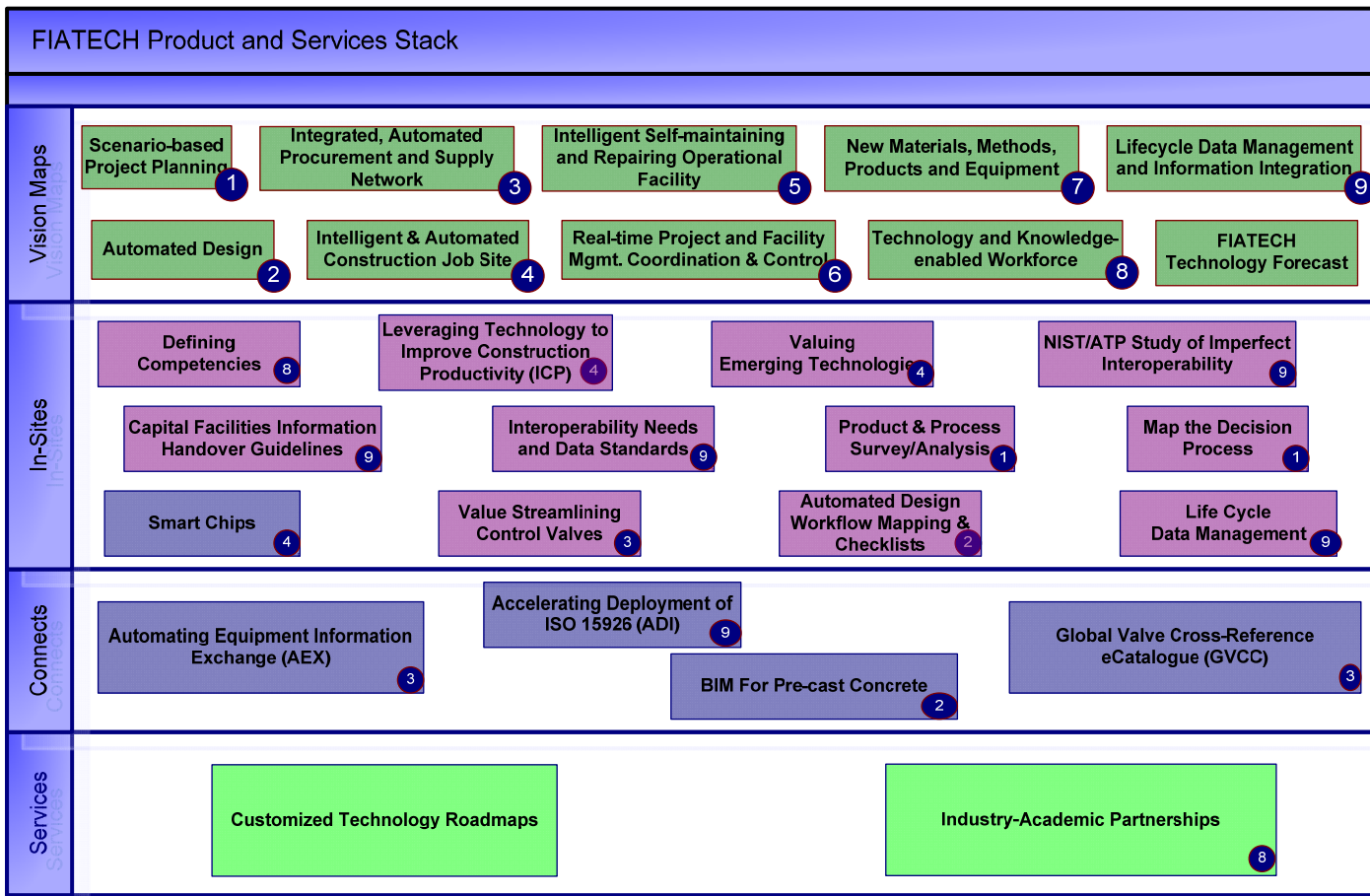
Business Process Flow for FIATECH Projects similar to Smart Chips



Product Pricing Models

As we look to the future of FIATECH, we expect continued growth: in products, projects, and membership. As a result of this expected growth, at some time in the future, FIATECH will need to re-examine its pricing model, though we do not expect any major changes in the near-term.

Nevertheless, as the discussions of the pricing model are an ongoing activity in any organization, we close this section and this outlook for FIATECH with the following depiction of FIATECH products and services. We believe that this depiction may be useful in these discussions.



Indicates Strategic Element Number

Product Rollout Plan

FIATECH intends to accomplish the following product objectives:

Development Process

- Define and execute the new product and project selection process
- Execute a new connectivity product development inside the new process and further refine and amend the process after evaluating the lessons learned
- Execute a new In-Sites research project using the new process and further refine and amend the process after evaluating the lessons learned

FIATECH^{CONNECTS}

- Complete and launch the Global Valve Cross-reference e-Catalogue
- Identify & launch new Global e-Catalogue
- Publish seven new XML equipment schemas
- ADI project incremental releases
- BIM for Pre-cast – report and template plug-in for BIM

FIATECH^{IN-SITES}

- Identify other applications of RFID (Smart Chips) for field tests
- Identify 1-2 forecasted technologies for field testing
- Publish Capital Facilities Information Handover Guide for process industry
- Publish Capital Facilities Information Handover Guide for building industry
- Publish practical guide for accelerating the adoption of capital projects standards
- Select SbPP technology developer for Release 1 mega tool
- Technology productivity prediction tool release 1
- Publish streamlined valve purchasing process and launch streamlined purchasing process for next high-value opportunity
- Publish industry survey identifying knowledge, skills and competencies for recent college graduates
- Publish an industry vetted checklist for project team kick-off and coordination and implement in London 2012 games project
- Define and publish service definitions, terms and conditions and marketing materials
- Package current research reports for purchase and distribution

FIATECH^{VISIONMAPS}

- Update and publish a new edition of all **visionmaps**
- Publish the first FIATECH Capital Projects Technology Forecast

