

# IIoT Business Program

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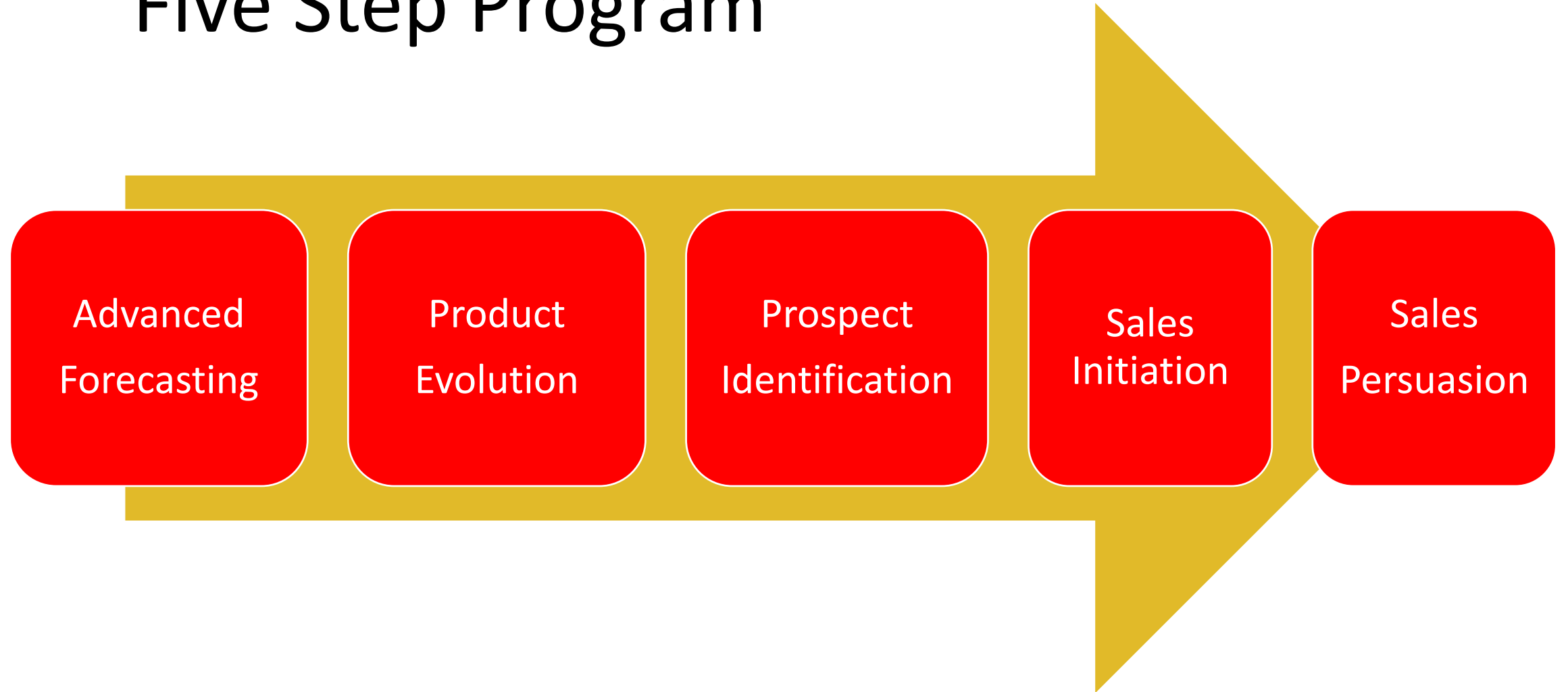


# IloT is Creating a Sea Change



- The industrial internet of things (IloT) will greatly increase opportunities but also the threats to suppliers of combust, flow and treat (CFT) products. The opportunities include larger markets and higher margins. The threats include the insertion of third parties between the supplier and his traditional customers. The process management system supplier will share profits with the CFT suppliers based on the application and product knowledge each has. Suppliers who leverage the Industrial Internet of Wisdom (IloW) to empower IloT will be the beneficiaries. Leveraging will require new approaches.
- In the next decade those CFT suppliers with strong IloT programs are likely to generate five times the profits as those with weak IloT programs
- The strong program is much more than just alignment with guide, control and measure suppliers. IloT empowered by IloW (Wisdom) will require a completely new approach to marketing, engineering and R&D.
- There are five steps to a strong program. These steps take into account the new approaches which are being initiated by customers, competitors and potential collaborators.
- They are described in the following slides.

# Five Step Program



# Five Step Program Addresses New Approaches by Customers, Competitors and Collaborators

The combust, flow, and treat suppliers need to navigate a sea change in their business due to IIoT and the potential to leverage IIoW. There are five steps to success. Each needs to address new approaches.

**Step 1 Advanced Forecasting:** Market forecasting is advanced by the vast amount of available information and the ability of a company such as McIlvaine to create continuously updated bottoms up forecasts which become central to the business plan.

**Step 2 Product Evolution:** Increasingly knowledgeable corporate personnel will buy from suppliers who can demonstrate the lowest total cost of ownership for not only the basic products but for support products and services

**Step 3 Large Prospect Plans and Projects:** Large prospects with central decision making will buy most of the products and be an influence on smaller purchasers. They will make longer term decisions and change the timeline and approach for vendors.

**Step 4 Sales initiation:** Selling to knowledgeable corporate long term decision makers requires a whole new approach to sales with greater use of digital media.

**Step 5 Sales Persuasion:** Application experts will influence sales based on high level communications. A number of approaches need to be addressed

## New Approaches to Succeed in the IIoT World

Subject	Old Approach	New Approach
Step 1 Advanced Market Research		
Market Research	Top down periodic general guesstimates	Bottoms up forecasts with detailed continuously updated analyses
Step 2 Product Evolution		
Total Cost of Ownership Analyses	Expensive and Inadequate	Voluminous and Continuous
Acceptance of New and Better Products	Slow	Rapid
Selection Criteria	Price and Service	Total cost of ownership (TCO) and service
Component Supplier Role	Initial Sale, Spare Parts, Service On Demand	Cloud Based Continuous Involvement
Step 3 Prospect Identification		
Location of Specifiers	Individual Plants	Corporate staff with TCO data
Step 4 Sales Initiation		
Sales Initiation	Uncoordinated Sales Leads	Identification and pursuit of large prospects
Step 5 Sales Persuasion		
Sales Persuasion	Sales Experts	Application Experts
Collaboration with Other Suppliers	Haphazard	Important to Success
Decision Process	Not Systematic	Decision Systems
Subject Matter Experts (SMES)	Lots of SMES but not well utilized	Subject Matter Ultra Experts (SMUES)
Remote Monitoring	Unusual	Prevalent
Data Analytics	Unusual	Prevalent
Third Party Operation	Minor	Major

# Step 1 – Advanced Market Research

- Most combust, flow and treat (CFT) products will be purchased by fewer than 1000 corporations through centralized decision making processes.
- End use geographical locations will be more important for service rather than sales.
- The new approach requires market forecasts which are detailed and accurate enough to become the foundation of sales programs.
- With the proliferation of raw information it is now possible to create millions of forecasts with continuous updates for the products offered by a company.
- These forecasts need to be based on thorough understanding of the processes, products and market dynamics.
- Mcilvaine is unique in that it can leverage over 40 years of following these industries to deliver high quality market research.
- The starting point for CFT suppliers is the IIoT & Remote O&M report followed by the market report or custom research in each product area.

# Step 1 Includes the IIoT Report and Relevant Product Market Reports

## IIoT & Remote O&M Report

- This continuously updated report forecasts the IIoT related purchases in each industry.
- Specific guide, control and measure forecasts are not only valuable to the suppliers of these products but to the component suppliers who will utilize them to expand their revenues.
- Each application is evaluated and IIoT trends in each chronicled.
- The program to leverage IIoW to empower IIoT and boost supplier revenues is provided.
- Contacts at the component and IIoT suppliers are provided in order to promote collaboration.
- Monthly webinars and a comprehensive intelligence system allow the user to stay abreast of the rapidly developing IIoT successes.
- More details on this report are provided at <http://home.mcilvainecompany.com/index.php/markets/2-uncategorised/106-n031>

## Market Reports and Custom Research

- McIlvaine has been publishing multi thousand page continuously updated market reports for more than four decades.
- These reports provide detailed product forecasts for each industry in each country and are accessible to multiple people in an online format.
- A recent addition is the forecasting of purchases for each of the 550 largest prospects.
- The forecasts leverage the extensive product, process, project and regulatory information also being compiled.
- Custom research is available to supplement the reports. A typical report has 80,000 forecasts but custom requests can bring the total to more than 2 million.
- There are 15 standard reports on air related subjects.
- There are 14 reports on water related subjects.
- There are 8 report on energy related subjects. More details are found at
- <http://home.mcilvainecompany.com/index.php/markets>

# Step 2 - Product Evolution

Approach	Old Approach	New Approach
TCO Analyses	Expensive and Inadequate	Voluminous and Continuous
Remote Monitoring	Unusual	Prevalent
Data Analytics	Unusual	Prevalent
Third Party Operation	Minor	Major
Component Supplier Role	Initial Sale, Spare Parts, Service On Demand	Cloud Based Continuous Involvement

## Evolution of New and Better Products

- TCO analyses will allow rapid acceptance of new and better products.
- Companies will need to prioritize R&D and this includes understanding customer needs.
- McIlvaine can conduct webinars and write articles for magazines to chronicle the advantages of new products.

In addition to products with lower total cost of ownership, purchasers will be routinely seeking packages with remote monitoring and data analytics. Third party operation can include at the very minimum an advisory role for the supplier and potentially annual contracts for parts, service and advice.

Suppliers can adopt an edge computer strategy where they supply the component and controls and some process management software to reduce the decision making for the cloud system.



# Remote Monitoring

- Remote monitoring will become common place
- Suppliers of components will have the opportunity to provide support on an instantaneous basis. This support can take a number of forms
  - Total supply and service by the component vendor
  - Edge computer by component vendor with feed to cloud based system by others
  - Advice as needed from data fed from cloud based system
- The identification of the various players and their role is an important contribution of the IIoT & Remote O&M report.

# Third Party Operation

- Operations can be decoupled from maintenance and allow third party operators to optimize processes.
- Component suppliers will be selling more products to third party operators.
- These operators are going to be more oriented to lowest TCO choices due to contracts which are fixed.
- The municipal water/wastewater operations are dominated internationally by third party operators who are identified in McIlvaine databases.

# Data Analytics

- Data analytic programs at best can guide the owner to correct problems but not to employ new and better products or processes.
- Process Management System suppliers tend to assume the availability of subject matter experts (SMEs).
- The same organized linkage of knowledge needs to take place as is created with IIoT. McIlvaine calls it IIoW.
- The Industrial Internet of Wisdom (IIoW) is a much more robust support for data analytics.
- IIoW involves many of the approaches discussed in this slide deck.

# Component Supplier Role

- Component suppliers who are remotely monitoring the operation and maintenance of their products can help reduce the cost of ownership.
- There is a big profit potential in fixed price contracts to provide and repair all the products.
- End users are attracted to the certainty.
- With better preventive maintenance suppliers can profit from fixed price yearly contracts.

## Step 3 - Prospect Identification

- With centralized decision making based on previously generated total cost of ownership (TCO) evaluations the purchaser will be making long range and broad decisions rather than making them project to project.
- Sales initiation will be based on identifying the opportunities at each major prospect far in advance of the final decision.
- Most CFT products will be purchased by existing corporations. Therefore the customers are already identified.
- Corporations all have multi year plans which are then supplemented by specific project planning.
- The CFT supplier can engage the client early in the decision making process and insure that final specifications are favorable to his product.
- With IIoT & Remote O&M it is likely that annual contracts involving existing plants and new projects can be negotiated.
- The role of distributors and the use of random sales leads will be less important in the new IIoT environment
- Mcilvaine services addressing this need are described at
- <http://home.mcilvainecompany.com/index.php/databases>

## Mcilvaine Prospect Identification Products

- Long range plans and specific large upcoming projects are the two basic sales needs.
- The long range plans including profiles of specific purchasers and locations of the individual plants are provided in five areas.
- Power includes separate databases on coal fired plants, gas turbine plants, IC engines, and renewables.
- Pharmaceutical, Electronics, and Food are included in several databases and reports.
- Oil, gas, and refining are in another group.
- Mining, Chemical, Pulp & Paper, Steel, Cement, Metal Working and Miscellaneous industries are combined.
- Municipal Water & Wastewater are covered in two services.
- Custom services are available on subjects such as dredging, aquaculture, ballast water and HVAC.

# Step 4 - Sales Initiation

- The knowledgeable purchaser armed with TCO analyses of existing components will be more influenced by the application experts rather than the sales experts.
- Companies can designate individuals to become the expert on each product/application combination.
- It is important that there be intercommunication within the company to include relevant product, position and geographic entities.
- McIlvaine can set up websites for all individuals to access project and application information and coordinate with each other on a bottoms up basis.
- Alerts and easily accessed and organized application information can be provided.
- Numerous studies have shown that third party provision of services which allow bottoms up collaboration can be very effective.
- The sales presentations typically represent far more investment and use than do brochures. Sales people can record their presentations and post them to YouTube.
- Presentations can also be posted to the website in a way which provides easy access.
- They can also be posted in the McIlvaine Global Decisions Orchard and in relevant services.
- McIlvaine can provide hosting and recording.
- McIlvaine personnel can also ask questions and provide comments to add value to the presentations.
- Articles for trade publications can also be prepared.
- Periodic webinars using the custom website as a foundation provide sales intercommunication and training.

# Step 5 - Sales Persuasion

Approach	Old	New
Sales Persuasion	Sales Experts	Application Experts
Collaboration with Other Suppliers	Haphazard	Important to Success
Decision Process	Not Systematic	Decision Systems
Subject Matter Experts (SMES)	Lots of SMES but not well utilized	Subject Matter Ultra Experts (SMUES)

Knowledge of the process as well as the product is needed. The utilization of subject matter ultra experts (SMUES) to validate conclusions will be important.

Mcllvaine can prepare white papers with validation by subject matter experts.

Mcllvaine can conduct recorded interviews with end users to validate the TCO findings.

Webinars with end users and SMUES can be scheduled.

Recordings can be posted to the client website, youtube and the various relevant Mcllvaine sites

## Decision Process

With the avalanche of new data analytics it will be important for purchasing decisions to be made systematically. The following tools from Mcllvaine can be effective

- Decision Systems (Mcllvaine can help create)
- Decisive classification of products and processes
- Numerical identification of Chinese and other companies

Products will be purchased not on initial price but on TCO

The importance of credible total cost of ownership analyses will rise.

## Subject Matter Ultra Experts (SMUES)

- Suppliers with better products will benefit from the development of subject matter ultra experts.
- SMUES are created by the focus of SMES on decision systems related to their expertise.
- SMUES can be employed by component suppliers, large consulting firms or independent consultants.
- Retired supplier personnel are good candidates.

# More Details on the Five Steps

**Step 1 Advanced Forecasting** - For system, component, consumables, guide, control or measure suppliers the starting point should be the IIoT & Remote O&M report.

<http://home.mcilvainecompany.com/index.php/markets/2-uncategorised/106-n031>

The relevant market reports and databases can be added in order of their importance or as a discounted package. Details are found at <http://home.mcilvainecompany.com/index.php/markets>

**Step 2 Product Evolution** - Custom consulting available

**Step 3 Prospect Identification** – Comprehensive services in five areas are described **at LINK**

**Step 4 Sales Initiation** - Services available are described at [4 Lane Knowledge Bridge to the End User](#)

**Step 5 Sales Persuasion** - Services available are described at [4 Lane Knowledge Bridge to the End User](#)

For more information contact Bob Mcilvaine: [rmcilvaine@mcilvainecompany.com](mailto:rmcilvaine@mcilvainecompany.com) 847 784 0012 ext. 112 cell 847 226 2391