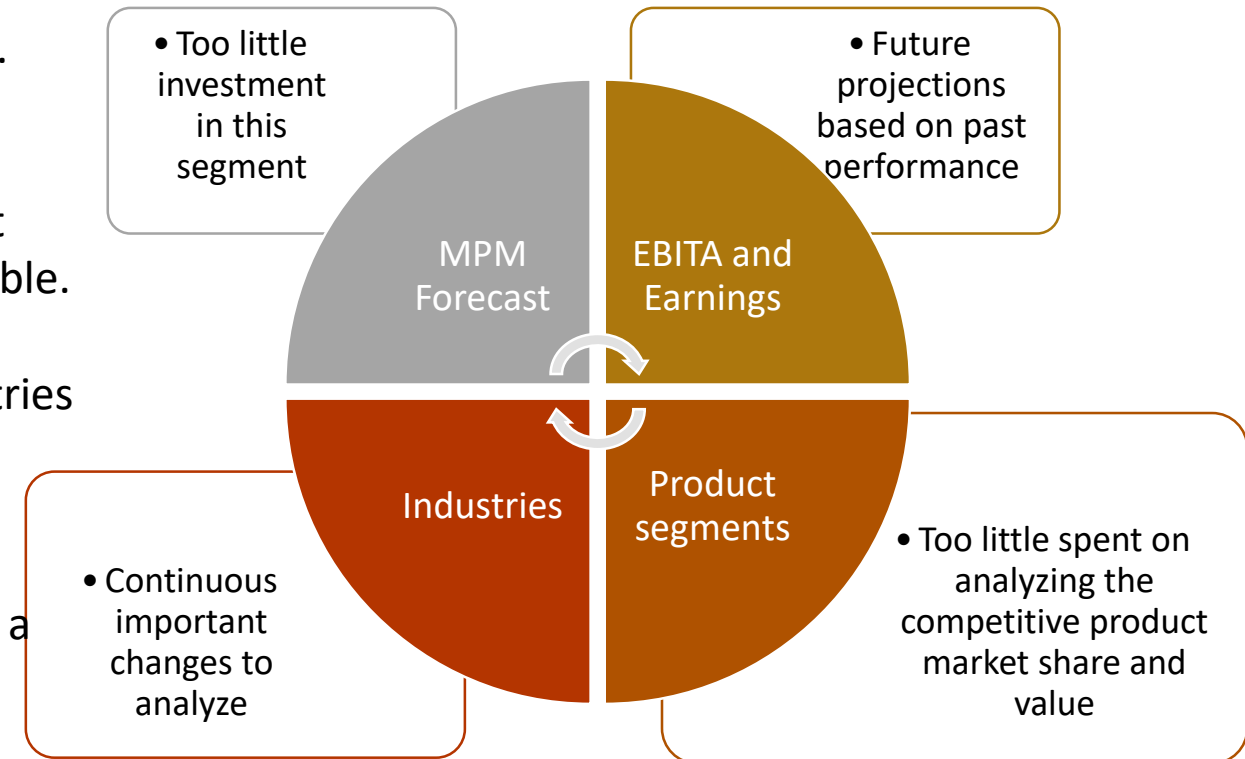




MPM Program – Market Strategies

Make Most Profitable Market Forecasts the Foundation of the Business Strategy

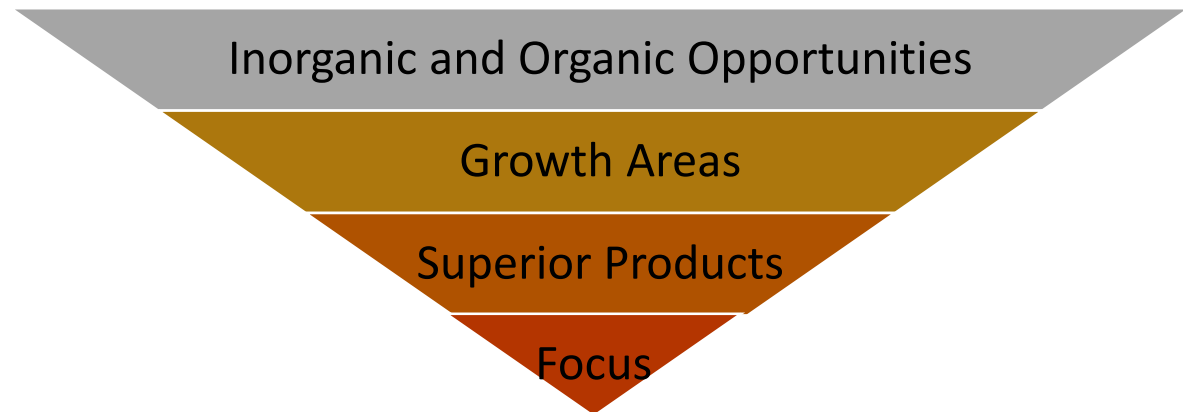
- A large percentage of the investment in strategic planning analyses is spent on forecasting future profits and EBITA based on historical performance.
- Detailed investigation of market shares and the performance of competitors products is important but previously prohibitively expensive or unavailable.
- Analysis of the drivers affecting regions and industries has been lacking for the same reasons.
- The MPM Program provides these additional important components of the business strategy at a cost which can easily be justified.



A New Strategic Tool to Make Better Decisions on Investment and Expenses

- Management is making the key decisions on expenses and capital investment based on forecasts
- These forecasts are often extensions of the past.
- The CFT markets and the competitive landscape are continually changing
- Future changes can be much more accurately predicted with a comprehensive approach
- The Most Profitable Market forecasts can be better predicted with a bottoms up organized program.
- This program can be used to make better decisions regarding investment in acquisitions, products and production facilities.
- The bottoms up approach provides insights for geographic and industry related decisions

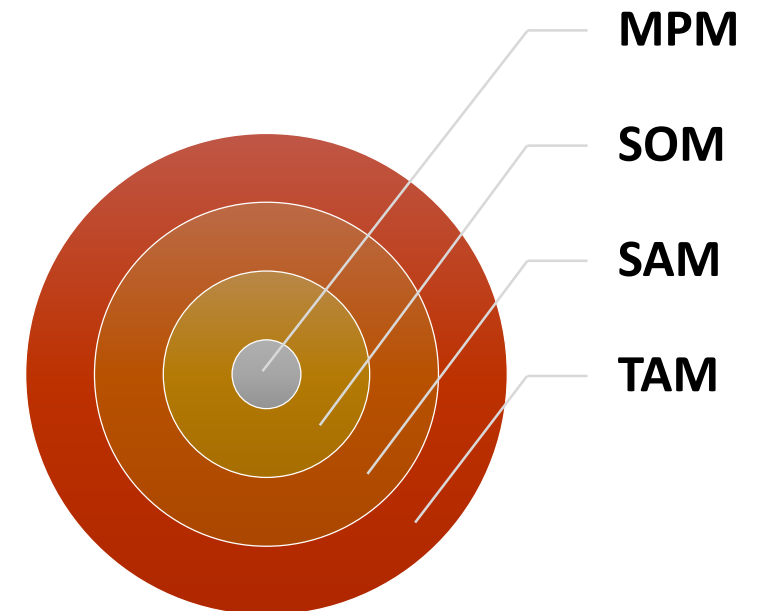
A profitability forecast for each organic and inorganic opportunity should be the foundation of the business program. The focus should then be on the most profitable opportunities given the market size and potential share.



Most Profitable Market (MPM)

the market which delivers the greatest profits from the resources available

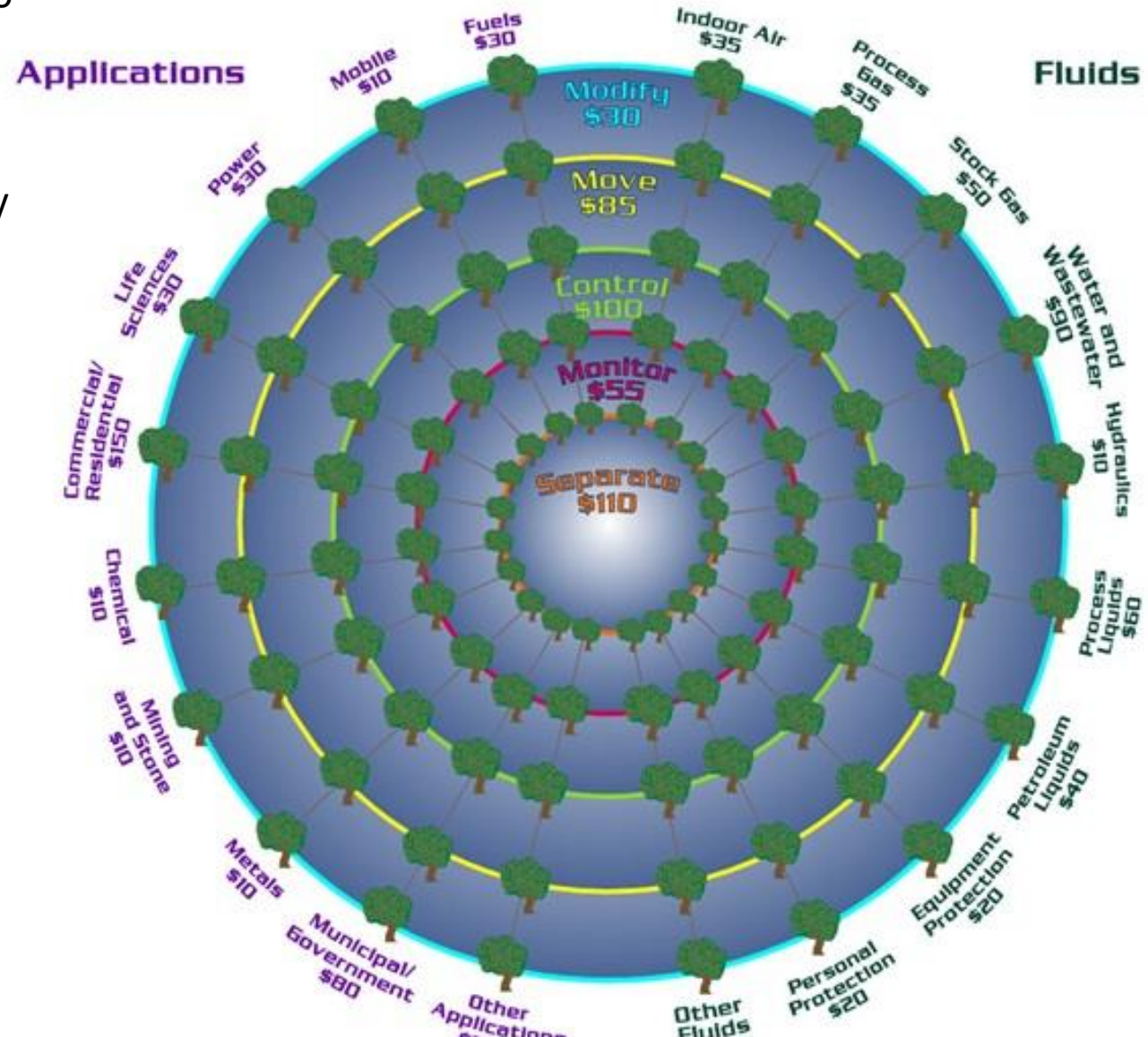
- The total Available Market (TAM) can be defined to include acquisitions, licenses, and partnerships.
- TAM is potentially \$400 billion per year.
- The Serviceable Available Market (SAM) is much smaller but with a company such as Danaher supplying instrumentation, chemicals and filtration products the SAM could be \$50 billion per year.
- The Serviceable Obtainable Market is the present market without new investment where assets are in place to generate profits even if modest.
- The MPM is the portion of the present market where attractive margins can be obtained.
- The Potential MPM takes into account both organic and inorganic investments.
- An accurate Potential MPM is not possible without a bottoms up forecast of the Present MPM.



\$400 Billion CFT Market

- The \$400 billion CFT market can be likened to an orchard where the supplier is looking for the easy gate to pick the fruit.
- You can pick the fruit (increase revenues) by industry and then product or by product and then industry.
- With the rapid growth of IIoT and Remote O&M there are opportunities to simultaneously pick multiple fruit with one effort.
- Therefore working out a Most Profitable Market Strategy based on knowledge about the entire orchard is very valuable.
- This is true for your organic investments and even more important for acquisition decisions.

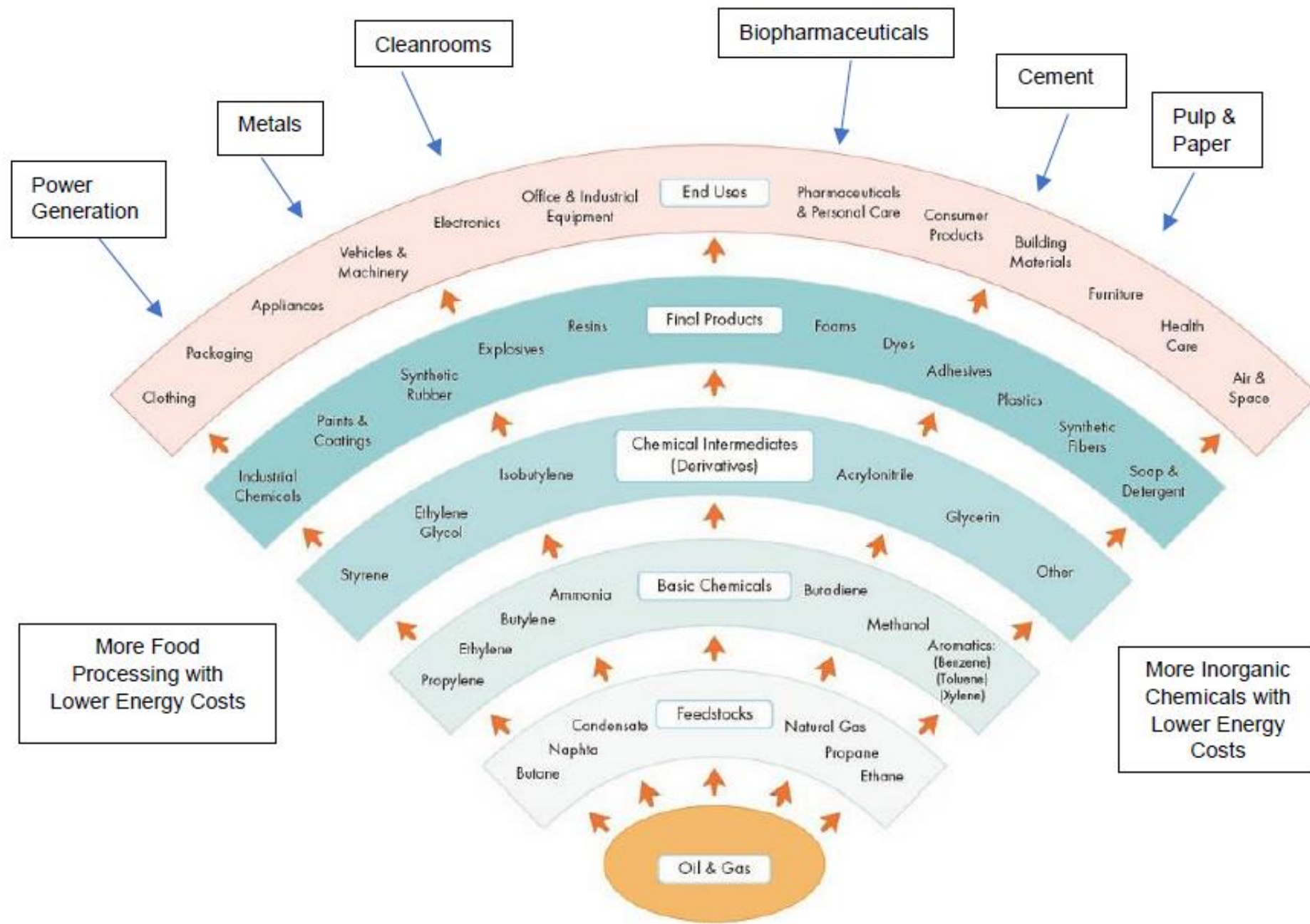
Fluid Treatment and Control Easy Gate
(Dollars in Billions)



Where are the high growth most profitable markets?

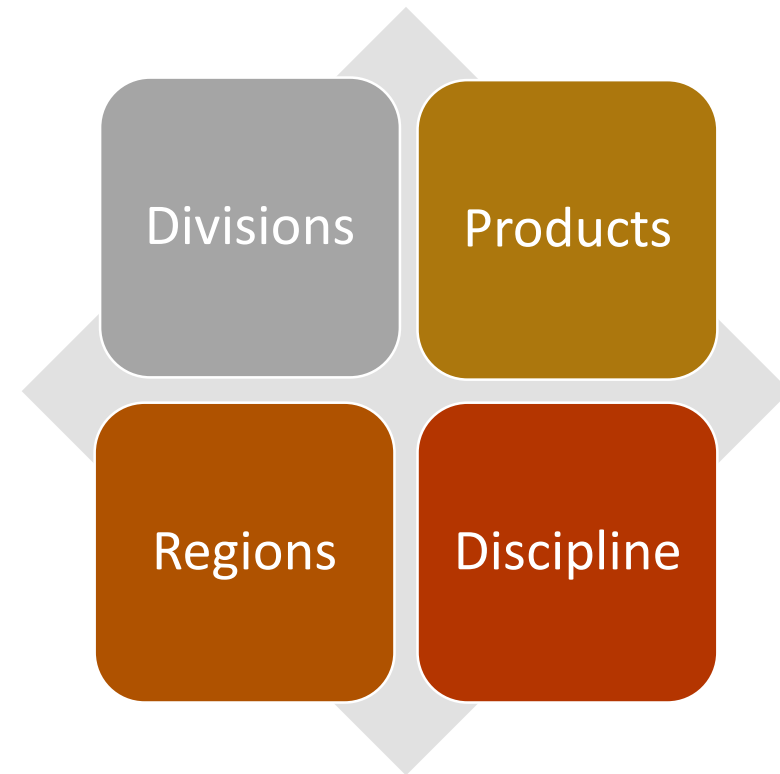
This is a difficult and continuing challenge to answer because

- The outlook can change quickly. Just within the last few months Exxon and Chevron announced multi billion shale extraction investments in the U.S.
- Ramifications of changes in one market affect the others. The expansion of oil and gas extraction to make the U.S. the dominant oil and gas supplier will have direct impact on
 - Oil and gas transport, gas processing and refining
 - Construction of LNG, petrochemical and plastics manufacturing
- It will have indirect impact on many U.S. industries which serve the oil and gas industry and those for whom energy is a major cost
- It will have a negative impact on investment in subsea, tar sands and oil and gas investments in ROW



MPM Program Brings Together People in all the Segments

- The MPM program brings together the individuals in various divisions, products, regions and disciplines.
- One of the challenges of the corporation is to facilitate collaboration among these groups.
- The MPM program does this in the following ways
- Forecasts are supplied for individual purchasers who may have plants in multiple industries in multiple countries.
- MPM forecasts for an individual plant can be shared and projects pursued.
- This is a bottoms up initiative with minimal supervisory expense.



Shared Basis for making R&D, Engineering and Sales Decisions

- The R&D program should be shaped by the potential profitability of successful improvements.
- The MPM Program analyzes the processes, products and cost of ownership of competitive products.
- This data is important as a starting point for R&D and engineering.
- The size of the potential market is one factor in making the R&D decisions.
- The process and competitor information can then be used in the follow-on programs.
- Continuing changes in the MPM can be used to tailor the ongoing engineering and R&D programs.



Forecasts are Built on Facts such as Production by Country

For most CFT products sales revenues are a function of the production of a plant or country. For the power industry it can be capacity or hourly generation. For the chemical industry the tons per year of product produced is the basis. Future production can be estimated from the project databases which McIlvaine maintains.

Ethylene Production 1000 tpy									
	2016	2017	2018	2019	2020	2021	2022	2023	2024
Austria	596	631	669	709	752	797	845	895	949
Belgium	2930	3106	3292	3490	3699	3921	4156	4405	4670
Finland	393	417	442	468	496	526	558	591	626
France	4407	4671	4951	5249	5563	5897	6251	6626	7024
Germany	6836	7247	7681	8142	8631	9149	9698	10279	10896

MPM Forecasts for Each Plant

Ethylene Production in France

As of 2017		
Location	Company	1000 tpy
Berre (Aubette)	LyondellBasell	470
Dunkerque	Versalis	380
Feyzin	A.P. Feyzin	250
Gonfreville	Total	525
Lavera	Naphtachimie	740
NDG	ExxonMobil	425

Forecasts by Product for Each Process in Each Plant

Forecasts can be made for each plant based on the production of chemicals at that plant. An ethylene plant might also make polyethylene. Some plants making chlorine reuse it in multiple processes. The CFT MPM for each process can be predicted using production forecasts.

MPM Forecasts for Each Product for Each Major Purchaser

The forecasts for specific sizes and designs of products can be made based on the systematically gathered evidence behind the MPM program

Product	Present Market \$	Growth Rate %	High Profit %	Market Share	MPM \$
<i>Petrochemical - World</i>					
Trunnion Ball Valve - Isolation					
Floating Ball Valve - Isolation					
Ball Valve - Control					
<i>Individual Purchasers - All Ball Valves</i>					
Chevron					
ExxonMobil					
LyondellBasell					

