

Attracting Capital: Positioning for Early-Stage, Expansion & Growth Capital



Fletcher King joined Morgan Stanley in 1995 and has been managing wealth for families, endowments for non-profits and financial services for companies for over 25 years. Before coming to Morgan Stanley he was the Global Finance Manager for DuPont's biotechnology business. Earlier positions at DuPont included corporate finance, banking, cash management and technology acquisitions. He started his career on Wall Street at Morgan Guaranty Trust Company (now J. P. Morgan). Fletcher holds an MBA in finance from Washington University in St. Louis and a BS in Economics from the University of Delaware.



Michael Crandall has been involved in the financial services industry for over 15 years with a focus on exploring and analyzing global investment opportunities across various asset classes and industries. Through a rigorous process of exploring macroeconomic trends, industry dynamics, and company specific fundamentals Michael constructs investment portfolios that meet the return and risk profiles of clients. Prior to joining Morgan Stanley as a Financial Advisor, Michael was a Co-Founder & Managing Member of Caip Partners LLC, a hedge fund which implemented an opportunistic investment approach globally. As a managing member at Caip Partners his responsibilities included overall asset allocation assessment, individual

company analysis, and developing deep relationships with investment companies. Extensive travel to target and existing investments in Latin America, Asia, Europe, Middle East and Africa provided unique perspective and insight into global trends. Before co-founding Caip Partners LLC, Michael was a Managing Director focused on technology investments at Maverick Capital, a \$10 billion Long/Short equity hedge fund. Prior to Maverick, Michael was a senior analyst at Pequot Capital focused on the semiconductor industry. Michael began his career at Morgan Stanley Asset Management as an analyst focused on the technology, energy, industrial, and financial sectors. Michael received his B.A. in Economics from Colgate University.



Peter Walker has worked in the institutional capital markets for over 15 years. He has the unique perspective of working with various asset classes both in the credit and equity divisions. Peter forged strong relationships with the largest money managers in the world. He held several senior roles including managing businesses within investment banks. Peter focused on partnering with banking and syndicate to originate new issuance. From his experience he is able to identify relative value opportunities for investors, and create capital structure solutions for companies. Prior to Morgan Stanley, Peter worked for Barclays/Lehman where he was US Head of Convertible distribution. He established the Los Angeles branch for Investment Grade Credit. Peter was member of the Equities Steering Committee for Human Capital Program, which led engagement, recruitment, and charitable efforts. Peter began his career at JP Morgan as High Yield Credit publishing analyst focusing on Industrial sector. He received his B.S. in Business Finance from the University of Colorado at Boulder.



JJ Kasper is a former academic (critical theory), lawyer (not for him), management consultant (loved it, but glad to be out of it), and operator (tech and restructurings). He devotes time these days to singing, walking Louis and Kiwi (dogs), reading, and investing crack-pot conspiracy theories. JJ is an uncle and god-father many times over, but has yet to move beyond dogs in his own household.



CHEMTECH

THE POWER OF DIGITAL TRANSFORMATION

Working While Digitally Distancing

DAY 2

DIGITAL CONTROLS

Digitalization Use Cases
Supporting Remote,
Connected Workers

The Digital Transformation has begun—Digitalization Use Cases Supporting Remote, Connected Workers

Speakers: Don Mack and Ethan Cook

Digital transformation is in progress all around us. And the need for such a transformation has been amplified as result of COVID-19. As an ever-increasing number of connected smart devices are installed in industrial manufacturing plants, the opportunity to safely and securely collect additional data pertaining to key assets and their operating environment has suddenly become a reality. Okay, but once this data is collected, what happens to it? Often, it's left lying dormant in the plant's historical database rather than being converted into information that can be transformed into knowledge from which actionable decisions can be made that positively impact the bottom line. This presentation will cover several use cases where data is being collected and analyzed and ultimately used by remote connected workers to maximize uptime and plant performance.

Attendees will learn:

- Data can be remotely connected and converted into information, information into knowledge, and knowledge into actionable decisions.
- Tools are available today to address a variety of operations and maintenance use cases.
- Use case examples that will be discussed include:
 - Process equipment (e.g. compressors, pumps) predictive maintenance
 - Control loop performance
 - Alarm management—Ongoing monitoring, assessment, and improvement
 - Control valve monitoring and predictive maintenance
 - Automation system health and lifecycle monitoring
 - Connected worker safety and performance improvement



Don Mack is an Industry Manager and Automation Alliance Manager with Siemens. During Don's 30+ years with Siemens, he has held roles in pre-sales technical support, marketing, sales and business development. In his current Industry Manager role, Don is focused on finding process automation and digitalization solutions for Siemens customers and presents in industry and web conferences on a regular basis. In his Alliance Manager role, Don works closely on a global basis with one of Siemens' key customers in the

chemical industry, providing technical education and support to the company's plant and corporate personnel. Don graduated with a BS in Electrical Engineering from the University of Pittsburgh.



Ethan Cook is an Application Engineer with a focus on process automation and digitalization in the chemical industry. During Ethan's eight years with Siemens, he has been able to work with a wide range of Siemens Industry products. Ethan previously worked as part of the PCS 7 project execution team, where he engineered and implemented projects for a variety of US customers. He brings that experience into his current role in order to help customers find the best overall solution for their automation needs.

Ethan graduated with a BS in Electrical Engineering from Penn State University.



CHEMTECH

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DAY 3

DIGITAL MODELING

Virtual Process Design
and Engineering

Virtual Process Design and Engineering: The key role of digital design and operation for sustainable processes in the post COVID-19 world

Speakers: Ravi Aglave and Simon Leyland

Creating and operating sustainable processes and products inevitably involves trade-offs that reconcile production, safety, profitability and sustainability objectives to minimize plant emissions and energy, water and other resource usage while achieving a range of production KPIs. In today's challenging environment, it is even more important to be able to reduce the time and cost of the design of such processes and to be able to make quicker decisions once the process is operational. This has to be achieved with an increasingly remote workforce, both in the R&D centers and on the process site.

A digital design approach utilizes high-fidelity, predictive process models validated against experimental or pilot plant data to rapidly and effectively explore the process design space so that

such decisions can be taken based on accurate quantification of the options. Key technologies are large scale Mixed Integer Nonlinear Programming (MINLP) optimization, Global System Analysis (GSA) and Computational Fluid Dynamics (CFD). MINLP optimization enables determination of the optimal value of multiple decision variables simultaneously while ensuring that equipment, process constraints, and safety constraints are observed. GSA allows rigorous quantification of the risk associated with the resulting optimal process design. Detailed models based on CFD analysis aids in the design and scale up of key unit operations.

Once the process is operational, the knowledge captured and investment made in digital design continues to bring value. A digital process twin from the design phase can be used to train operators remotely via a virtual plant for operator training. The model can be taken online and combined with plant data to continuously optimize, monitor, and predict future plant behavior, thus reducing the number of on-site personnel required. As the online model is in the cloud, this can all be monitored remotely.

This presentation describes the digital design approach currently being applied throughout the entire lifecycle of sustainable processes, from R&D, through design and operation, briefly illustrated with real-world case studies.



Dr. Ravindra Aglave leads the energy and process industry sector in the Simulation & Test Solutions business unit at Siemens. He directs the efforts of solving challenging chemical engineering and transport phenomenon problems in the chemical and allied industries. He is responsible for bringing new modeling and physics knowledge in to CFD simulation code that can be deployed in the industry.

Dr. Aglave has over 20 years of research and engineering experience in academia and industry in the area of reactor design, scale-up and troubleshooting. His expertise includes computational fluid dynamics (CFD), mixing & reaction engineering,



Simon Leyland is a Principal Consultant at PSE and Head of the Technology Services Group for the Energy & Chemicals Business Unit, managing a team of engineers that provide consulting services and software support to PSE's commercial clients.

Simon has over 18 years' experience in the application of advanced process modeling in a wide range of fields including relief and blowdown systems, fuel cells, separation processes and papermaking. Prior to his current position, he was part of the Oil & Gas group focusing on safety applications and served as a member of the API subcommittee on pressure relieving systems.