A large industrial plant, possibly a refinery or chemical processing facility, is shown at dusk. The sky is a mix of blue and orange, with the sun low on the horizon. The plant is illuminated by its own lights, creating a warm glow. In the foreground, a paved road with a white dashed center line leads straight towards the plant. The overall scene conveys a sense of industrial scale and forward progress.

PLANT LEADERSHIP SYSTEMS

TRAINING & SERVICES

EFFECTIVE SOLUTIONS...
PRACTICAL RESULTS

PLANT LEADERSHIP SYSTEMS is an
international training and consulting firm
aimed at being the **best in the world**
at developing and supporting
the **process industry workforce...**

...from entry-level Operators,
to Supervisors and Trainers,
to Plant Managers.

Our experience is the result of **decades of solving problems** in our own plant leadership positions and the experience of assisting clients around the globe.

Our work is focused on delivering **practical solutions** and skills that can be used to achieve **better results immediately**. Our team of expert facilitators provides customized training solutions to meet your needs, in an **energized and supportive environment**. We offer:

- **Engaging Workshops**
- **Easy-to-use Materials**
- **Practical Approaches**
- **Practical Advice**



OUR APPROACH

The foundation of any effective training system is **the ability to recognise and define the behaviors** required by an employee to successfully perform a job.

Failure to fully define required behaviors leads to **inadequate training, inefficient operation, and increased risk of incidents.**



Plant Leadership Systems has expertise in defining the skills required for jobs in the process industries, down to the level of **specific, observable behaviors.**

Effective training introduces and **develops practical mastery** of the skills required for job success.

Proper performance support **makes it easy** for employees **to perform** the **desired behaviors** correctly.

Performance Management practices assure **knowledge transfer** and **accountability** for proper job performance.

TRAINING PROGRAMS




PLANT LEADERSHIP SYSTEMS




PLANT LEADERSHIP SYSTEMS is prepared to develop or enhance your programs with practical approaches to meet training needs and support workforce performance.

All programs can be easily customized, and used as stand-alone training or be integrated into existing programs. Plant Leadership can provide instructors, or support internal delivery by your company, as needed.

<p>Basic Operator Training</p>	<p>The Basic Operator Training Program provides incoming operators with the solid foundation necessary to perform in a highly hazardous, technical environment. It includes training in safety and environmental practices, basic operating duties, plant equipment, plant utilities, basic plant processes, and the personal skills necessary to succeed as an operator. On completion of this program, trainees are ready for assignment to an operating unit.</p>
<p>Console Operator Training</p>	<p>Our Console Operator Training Program is designed to help your operators master the skills required to make the transition from field operations to a board position. It includes training in the technical leadership of an operating unit, process safety and environmental leadership, process control, process troubleshooting, and process optimization.</p>
<p>Supervisor Training</p>	<p>Our Supervisor Training Program is the most comprehensive available for the process industries. It can be used to prepare new supervisors for their responsibilities or to enhance or refresh the skill of long-term incumbents. It includes training in effective team leadership, process safety leadership, advanced communications skills, leading process troubleshooting, training the team, conflict management, and effective performance management.</p>
<p>Learning & Development</p>	<p>Our Learning and Development Program is designed to develop the skills needed by people who develop or deliver site workforce training. It includes training in effective workforce development, how to develop Job Performance Standards that define detailed behaviors for a task or position, how to develop training materials, how to deliver classroom or on-the-job (OJT) training, how to assess knowledge and skill mastery.</p>
<p>Manufacturing Leadership</p>	<p>Our Manufacturing Leadership Program is intended to provide training and insight for superintendents, operations managers, technical managers, and other individuals in site leadership positions. It provides training in how to assess and understand the needs of the business and the site, and how to provide effective technical, business, and people leadership.</p>

TRAINING WORKSHOPS





PLANT LEADERSHIP SYSTEMS offers a wide range of training workshops to fit your specific needs...

...from **traditional public seminars** and **training** delivered offsite,
to **workshops and classes** held at your facility,
to **custom solutions** designed to address a particular challenge.

Plant Leadership Systems is dedicated to providing an **engaging training experience**.

Workshop sessions including instructor-led group activities, interactive lecture, and individual coaching. Where appropriate, workshops include field practice or practice with a process simulator.

Our workshops are all led by **knowledgeable and experienced instructors**.

Plant Leadership Systems offers training workshops for **all levels of process plant and refinery employees**, ranging from new hires to trainers to upper level management.

We offer workshops in the following areas:

- Operations
- Console Operations
- Supervision
- Management
- Training Department
- Engineering

OPERATIONS WORKSHOPS

Course Name	Objectives	Duration
Basic Operator Training	<ul style="list-style-type: none"> • Basic technical knowledge and skills needed to work as an operator • Work practices typical of process operations and how to support them • How to interact and communicate effectively with others in process plant or refinery 	Variable
Troubleshooting Process Equipment	<ul style="list-style-type: none"> • Learn the most common failure modes of typical process plant equipment • Learn the basic steps to troubleshoot equipment problems • Learn how to effectively document equipment problems 	2 days
Communication Skills for Operators	<ul style="list-style-type: none"> • Learn basic communication skills and practice on typical plant scenarios • Receive feedback on reading and writing skills for essential plant communications • Learn appropriate communications to shift team and support groups • Provide guidance on how to handle “difficult” communications such as abnormal situations, safety concerns, or peer conflicts 	1 day
Energy Efficient Process Operation	<ul style="list-style-type: none"> • Learn how energy costs impact overall processing costs and how to operate in an energy efficient manner • Learn specific approaches to minimize energy costs in the operation of typical process plant equipment and typical sources of energy saving in processing • Learn how operators can support energy-cost reduction programs 	1 day
Operating Procedures	<ul style="list-style-type: none"> • Learn how operating procedures help ensure safe, efficient unit operation • Learn how to effectively use operating procedures and SOPs • Learn best practices for procedure design and review” 	2 days
Basic Equipment Care	<ul style="list-style-type: none"> • Learn how to familiarize yourself with typical equipment found in a typical process unit • Demonstrate how to inspect and provide routine care for process equipment • Describe how to serve as the front-line of reliability 	2 days
Practical Pump Operation & Care	<ul style="list-style-type: none"> • Learn types of pumps and lubrications systems • Learn basic operation, monitoring and care of pumps 	1 day
Compressors & Steam Turbines	<ul style="list-style-type: none"> • Learn types of compressors and steam turbines • Learn basic operation, monitoring and care of compressors and turbines 	1 day
Boiler Operation	<ul style="list-style-type: none"> • Learn types of steam boilers • Learn basic operation, monitoring and care of boilers and condensate return systems • Learn safety considerations in boiler operation 	1 day
Fired Heaters	<ul style="list-style-type: none"> • Learn types of fired heaters • Learn basic operation and monitoring of heaters • Learn safety considerations of heater operation 	1 day
Distillation	<ul style="list-style-type: none"> • How distillation works • Typical distillation equipment and configuration of columns • Operation and troubleshooting of distillation equipment 	1 day

CONSOLE OPERATIONS WORKSHOPS

Course Name	Objectives	Duration
Effective Console Operations	<ul style="list-style-type: none"> • Understand critical role of the console operator in plant operations • How to manage console operation to ensure that process safety and environmental regulatory requirements are met • Skills needed to communicate effectively and serve as focal point for technical operation of the process • Practical approaches to leading and influencing shift team without formal authority • Practice in solving common problems faced by console operators 	3 days
Process Control	<ul style="list-style-type: none"> • Basic of process measurement and instrumentation • Basic control loops and control schemes • PID controllers and tuning effects • DCS systems • Advanced Process Control 	2 days
Process Plant Troubleshooting	<ul style="list-style-type: none"> • Learn skills necessary to monitor unit operation, recognize deviations as they occur, and respond quickly and effectively • Master a practical, easy-to-use troubleshooting method and practice applying it to plant problems on a process simulator • Learn the critical factors that impact individual troubleshooting performance, and how to recognize them when they occur 	2 days
Process Optimization	<ul style="list-style-type: none"> • Describe the elements, drivers, and potential benefits of process optimization and how to realize them • Learn a basic optimization method and practice applying it • Learn how to evaluate process capability to perform within the desired operating envelope and assess proposed process changes 	2 days
Practical Shift Team Leadership	<ul style="list-style-type: none"> • Basic challenges faced when transitioning from a peer to a leadership role • How to communicate when in a leadership role • How to build trust and support • How to handle difficult people and address conflict 	1 day

SUPERVISOR WORKSHOPS

Course Name	Objectives	Duration
Supervising for Shift Team Effectiveness	<ul style="list-style-type: none"> Basics of effective shift team management Critical management objectives and how supervisors can best help achieve them Understand personal style, where it enhances supervisory effectiveness, and where it may present a challenge Approaches to handling challenges of effective shift team leadership Practice in applying skills by analyzing “real world” supervisory scenarios 	3 days
Advanced Communications for Process Plant Supervisors	<ul style="list-style-type: none"> How to maximize the quality of overall communications through use of essential verbal and non-verbal skills Practice on “real-world” plant communication scenarios combined with a practical approach to address each situation Receive individual feedback and coaching on communication effectiveness with guidance on how to take skills to the next level Improve confidence in handling “difficult” communications such as performance reviews, disciplinary actions and conflict resolution 	3 days
Leading Process Plant Troubleshooting	<ul style="list-style-type: none"> Key factors for process monitoring and troubleshooting success Practical step-by-step method for process troubleshooting How to coach process monitoring and troubleshooting performance Common mistakes in troubleshooting and how to avoid them 	2 days
Effective Performance Management	<ul style="list-style-type: none"> Learn how to establish a commonly agreed upon set of standards for performance Apply the standards to the workforce using the existing appraisal process How to handle difficult cases Develop a plan to raise the required level of future performance and communicate to workforce 	1 day
Training and Developing the Shift Team	<ul style="list-style-type: none"> Develop an understanding of concepts and program elements required for an effective process plant training program Provide skills necessary for practical, 24/7 support of shift team training and development Learn how to verify critical workforce skills and provide coaching to improve practical mastery 	2 days
Process Safety Leadership	<ul style="list-style-type: none"> Review concepts underlying the Process Safety Management practices typically encountered by the shift team Provide skills necessary for practical, 24/7 support of safe work practices Review case studies of leadership failure in critical process safety incidents 	2 days
Abnormal Situation Management	<ul style="list-style-type: none"> How to recognize abnormal situations and manage abnormal situations when they occur How to maintain situational awareness and avoid error-chains Learn how to analyze your team and prepare them to respond 	2 days

MANAGEMENT WORKSHOPS

Course Name	Objectives	Duration
Maximizing Plant Supervisor Performance	<ul style="list-style-type: none"> • Learn the critical behaviors for successful supervisors • Learn how to develop supervisory skills through training and coaching • Learn how to staff and manage front-line supervisor positions for improved performance • Lead and manage the line organization during the most challenging circumstances • Use a systematic approach to achieve lasting improvements 	2 days
Effective Operations Leadership	<ul style="list-style-type: none"> • Learn how to balance technical, business, and human factors to achieve operational excellence • Support day-to-day challenges in operation while preparing for technology of the future • Align the performance of your site with company objectives and meet critical business needs • Use a systematic approach to drive improved human performance 	1 day
Error-Free Operation	<ul style="list-style-type: none"> • Learn common factors that contribute to human error in the process industry • Critical individual and team behaviors that can reduce or eliminate error • How to create and maintain work systems that help avoid errors • Approaches to managing people and processes that foster an error-free workplace 	1 day
Team Leadership for Technical Managers	<ul style="list-style-type: none"> • Create standards that define behavior for successful technical staff • Develop mastery of communication skills needed for effective team management • Lead and manage your organization during the most challenging circumstances • Use a systematic approach to drive improved performance 	2 days
Managing Conflict	<ul style="list-style-type: none"> • Develop an understanding of typical sources of conflict and how to act to avoid or mitigate them when possible • Provide skills necessary to assess conflict situations in the plant and apply a practical method for conflict resolution • When and how to get help with problem resolution 	1 day

TRAINING DEPARTMENT WORKSHOPS

Course Name	Objectives	Duration
Effective Industrial Training	<ul style="list-style-type: none"> • Foundation course for process plant trainers • Elements for training system success • Role of training in human performance • Key skills for process plant trainers • Common barriers to industrial training success and how to overcome them 	2 days
Creating Job Performance Standards	<ul style="list-style-type: none"> • Introduction to Job Performance Standards and competency models • How to define behaviors and build a performance standard • How to validate performance standards and prioritize behavioral objectives • How to align with performance management systems 	2 days
Train the Material Developer	<ul style="list-style-type: none"> • Basics of effective training materials • How to write study guides, instructor guides, knowledge tests and skill performance tests • How to work with SMEs to manage the review process and ensure technical accuracy 	3 days
Train the OJT Trainer	<ul style="list-style-type: none"> • Goals of training, the needs of the learner, the role of the trainer and critical factors for training success • Methods for presentation of technical information to small groups, plus hands-on individual training • How to handle difficult trainees 	2 days
Train the Assessor	<ul style="list-style-type: none"> • Introduction to competency assessment • How to utilize Job Performance Standards in development of assessment tools • How to assess both knowledge and skill-based technical performance 	3 days
Integrating Simulation into Training	<ul style="list-style-type: none"> • Introduction to use of generic simulation in process plant and refinery training • How to effectively integrate simulators into existing training curriculum • Barriers to effective simulator use and how to overcome them 	1 day
Building Effective Simulation Scenarios	<ul style="list-style-type: none"> • Elements of an effective lesson plan with simulation • How to construct a simulator scenario to support a learning objective • How to test a scenario and create a standard for testing purposes 	1 day
Workforce Skill Development for Managers	<ul style="list-style-type: none"> • How to validate, use, and maintain Job Performance Standards • How to use training to drive performance improvement • How to provide effective training program support 	1 day

ENGINEERING WORKSHOPS

Course Name	Objectives	Duration
Practical Operations Engineering	<ul style="list-style-type: none"> • Overview of how to provide effective engineering support to process operations • How to familiarize yourself with a process • How to identify opportunities for process improvement • How to work well with operations staff 	2 days
Process Plant Troubleshooting	<ul style="list-style-type: none"> • Introduction to process plant troubleshooting for engineers • How to monitor process performance • Basic troubleshooting method • Common modes of failure for process equipment • Common errors in process troubleshooting and how to avoid them 	2 days
Writing Effective Operating Procedures	<ul style="list-style-type: none"> • Introduction to operating procedures and guidelines • Principles of information mapping • How to write step-by-step procedures • Use of graphics in process instructions • How to review operating procedures 	3 days
Communication Skills for Engineers	<ul style="list-style-type: none"> • Basic communication skills and practice on “real world” plant scenarios • Receive feedback on reading and writing skills for essential technical communications • How to communicate effectively in typical engineering communications situations • How to handle “difficult” communications such as abnormal situations, safety concerns, or peer conflicts 	2 days
Process Risk Analysis	<ul style="list-style-type: none"> • Learn the language of risk management • Understand a methodology that can be followed in order to evaluate risk in any process • Gain practical experience in identifying and reviewing operational and business risks • Gain an understanding of risk management tools for evaluating the probability and impact of risk • Learn what artifacts to integrate into the planning cycle of a plant 	2 days
Process Optimization	<ul style="list-style-type: none"> • Describe the elements, drivers, and potential benefits of process optimization and how to realize them • Learn a basic optimization method and practice applying it • Learn how to evaluate process capability to perform within the desired operating envelope • How to lead systematic and coordinated efforts with engineering, operations, maintenance, and regulatory groups • Learn how to assess potential safety and environmental impact of potential process changes 	3 days

MATERIAL DEVELOPMENT & PERFORMANCE SUPPORT



**PLANT LEADERSHIP SYSTEMS**





PLANT LEADERSHIP SYSTEMS provides
material development services
to support training and performance
in our areas of expertise.

Our development process expedites **content creation**
and **facilitates efficient review** by your in-house experts.

Plant Leadership Systems develops

Training Materials

Unit Specific Training

Operating Procedures

Site and Company Policies

TRAINING MATERIALS

We can support **development of new training materials** or help **enhance** or **update legacy materials**. Our **flexible approach** permits us to easily collaborate with your staff or with other providers.

We can develop the following kinds of training materials:

- Job Performance Standards
- Basic Operation Skills
- Field Skills
- Console Operator Skill Checklist
- Supervisor Training
- Technical Training Materials
- Simulation Scenarios
- Training App Content

UNIT-SPECIFIC TRAINING

Plant Leadership Systems has developed an **efficient, practical, and cost-effective** approach to unit-specific training.

Our work incorporates **the latest evolution of technical training support** and will meet the needs of both new and experienced employees.

We can provide the following types of materials:

- Study Guides
- Instructor Guides
- Knowledge Tests
- Performance Tests
- Console Checklists
- Troubleshooting Guides
- Job Aids
- Simulation Scenarios



OPERATING PROCEDURES & POLICIES

Plant Leadership Systems has long experience with the **development and implementation** of operating procedures and policies.

We use principles of **information mapping** to assure that your procedures are **easy to read, understand, follow, and maintain.**

We provide the following types of operating procedures and policies:

- Unit-Specific Operation
- Normal Operation
- Startup
- Shutdown
- Emergency
- Turnaround
- Operating Instructions
- Work Policies
- Training Policies
- Standard Operating Procedures



CONSULTING SERVICES





PLANT LEADERSHIP SYSTEMS provides consulting services to support training and performance improvement.

All Plant Leadership Systems consultants have **experience** as manufacturing site leaders and managers.

ASSESSMENT

Plant Leadership is experienced in assessing the performance of plant sites and systems. We can provide **custom assessments** or **benchmarking services** in the following areas:

- Learning & Development Practices
- Manufacturing Performance
- Leadership & Management Performance
- Operational Excellence

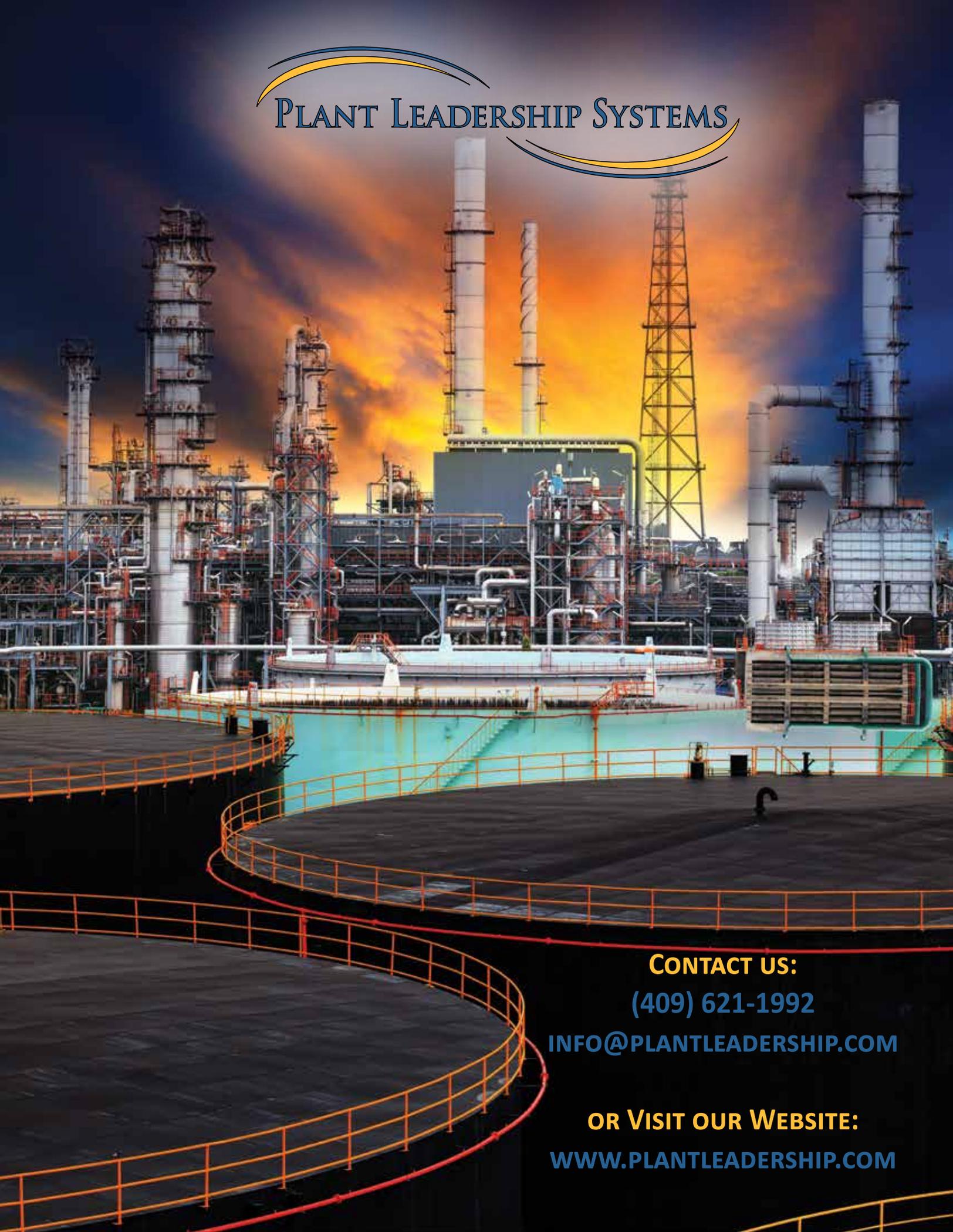
IMPROVEMENT STRATEGIES

Plant Leadership can help develop **practical improvement strategies** that can be **implemented efficiently**. We assist with challenges of technical, business, and people leadership. Some examples of our work include:

- Training system enhancement
- Work Process improvement
- Key Performance Indicator (KPI) development
- Simulation Integration
- Performance Management improvement
- Management of Organization Change (MOOC)

IMPLEMENTATION SUPPORT

In all our areas of practice, we can provide **flexible and efficient shop-floor or boardroom implementation support 24/7**, anywhere in the world.



PLANT LEADERSHIP SYSTEMS

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