



Our Capabilities

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Executive Summary

GPAllied is the most diverse reliability and operations consulting and services company in the world. Combined, our unrivaled technical expertise, solutions portfolio and global reach help you achieve rapid bottom-line improvement and sustained cultural change.

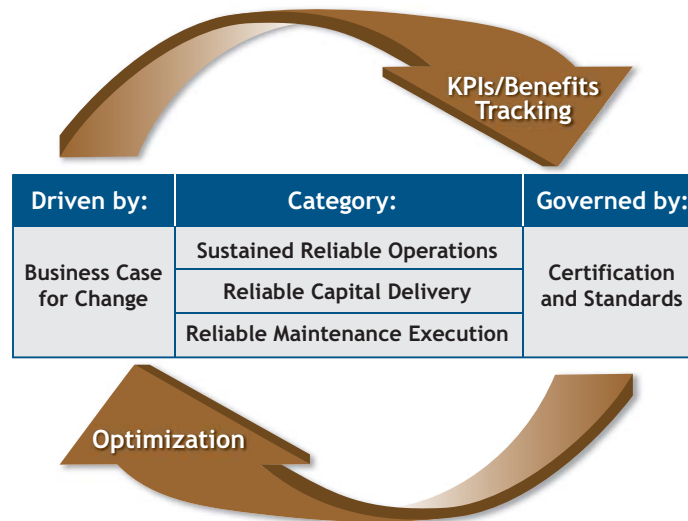
GPAllied’s diversity and expertise result from joining together firms with experts in Maintenance and Reliability, Operational Excellence, and Workforce Development. This winning team allows us to offer you expertise in the fields of Lean, Reliability Engineering, Six Sigma, Condition Monitoring, Change Management, Maintenance Planning and Scheduling, Workforce Development and Maintenance Craft Skills training. However, only GPAllied can offer you solutions that fully integrate these specialties.

To ensure that GPAllied provides you with latest thinking and proven best practices, we have attracted recognized experts to our team, benchmarked best-in-class operations and connected with thought leaders throughout the industry. Furthermore, we ensure that our project team members have technical expertise, as well as expertise as trainers and mentors through a rigorous qualification process and the establishment of work execution standards.

GPAllied has modeled their deliverables based on the following core beliefs:

1. The reason our clients are in business is to make money
2. The first step to ensuring profitability is to have reliable “systems”
3. The term “system” speaks to the combination of the people who operate the equipment, the processes they follow to operate the equipment and the equipment itself
4. The definition of *reliable* is: the ability to perform a given task, at a stated rate, for a given period of time, under a given set of circumstances
5. The organization must be motivated and prepared for any change to be sustainable
6. Having successfully attained reliability, sustaining the improvements is paramount to on-going success
7. Optimization is achieved through the use of a culture of continuous improvement
8. Clients require a rapid return on investments

To that end, GPAllied offers you a complete suite of solutions in the following categories:



GPAllied prides itself on two (2) things: our passion for helping the client and the flexibility of delivery methods.

Our passion is driven by *the satisfaction of seeing our company help our customers build, utilize and realize the power of the Return on Asset Reliability (ROAR™).*

Our flexibility in delivery methods comes in any one of four (4) different ways. Each way specifically customized to meet the unique needs of the client. Those four (4) ways are:

Training

GPAllied offers all of our deliverables as classes for the client who prefers to implement using their own people.

Coaching

For the client who wants more than a training solution, but still prefers to implement using their own personnel, GPAllied offers a combination training/coaching package. The training class is augmented by a regimen of coaching and mentoring by our experienced consultants.

Services

Some clients prefer to contract out certain functions. GPAllied can deliver our services to the client in one of two forms:

- Project Based – GPAllied personnel are on-site for the duration of the project
- Full Time Equivalent (FTE) – GPAllied personnel are on-site, full time as contracted employees

Consulting

Whether you are starting a major change initiative or looking for the best way to improve performance, GPAllied's consultants guide you as you set your direction, design and deploy your approach, and realize results.

The GPAllied vision is to be the premier global provider of sustainable transformation driving improved customer operational and reliability excellence. To that end, we believe the best way to make our vision a reality is to optimize customer business performance through customized solutions utilizing our experienced people, innovative processes, and proven technologies. Thus achieving operational and reliability excellence sustained through the use of cultural change management with the relentless pursuit to deliver the highest return on investment.

GPAllied's expert team provides unparalleled solutions. You can count on us to provide the following:

- A strong foundation to ensure that your organization's systems reliably meet customer needs with lower cost
- A roadmap to build upon that foundation to streamline your processes and help you achieve a culture of sustained continuous improvement
- Consultants and trainers with technical expertise, interpersonal skills, and drive to work effectively with your team
- Effective training to develop your people
- Solutions customized to fit your needs, drawing from a diverse range of methods and services
- A rapid return on your investment

This Capability Document outlines the key deliverables our team can provide.

Business Case for Change

Establishing a business case for change is a necessary first step in most implementations. Understanding that the effectiveness and efficiency of the assets employed are what drive the financial performance of a company, a new metric called Return on Asset Reliability (ROAR™) shows the financial impact of uncovering the hidden potential in the currently installed asset base. With ROAR™, a higher return can be realized with little to no capital investment. ROAR™ is the primary driver behind building your business case for change.

Recognizing that business needs vary, GPAllied offers several alternatives for developing your business case:

- Maturity Analysis (Levels of Achievement)
- Theory of Constraint (TOC) Analysis
- Value Stream Mapping and Planning
- Lean Opportunity Analysis
- Change Readiness Survey
- Benchmarking
- Transformational Analytics
- Process Simulation Modeling
- Key Performance Indicator Development
- Process Waste Analysis
- Day in the Life Of (DILO)

Understanding the financial impact of system failures and inefficiencies are only part of the story, a complete analysis of the costs associated with conducting an improvement initiative also involves items like:

- Internal Labor Costs (including Overtime)
- Contractor Costs
- Downtime Costs
- Energy Costs
- Scrap/Rejects/Return Costs
- Staffing Changes
- Power Consumption
- Current PM Program Evaluation
- Evaluation of the Plant Culture
- First Time Through Quality
- Rolled Throughput Yield
- Dock-to-Dock Flow Time
- Inventory Turns
- Customer Demand
- # of Machines
- Bill of Materials Accuracy
- Repair Costs
- # of Planners
- # of Engineers dedicated to Maintenance
- # of PdM Personnel
- Amount of PdM Hardware and Software
- Future PdM Design Changes
- Length of Project
- Process Cycle Time
- Product or Part Variety
- Lead Time
- Total Production and Maintenance Space

Once the *hurdle rate* is known for a given company, all of the data is used to calculate a ROI for potential savings and to evaluate the economics of various solutions.

Sustained Reliable Operations

GPAllied provides on-site operations management and process-improvement training, coaching, and facilitation for your specific needs, timing, and budget. GPAllied supports implementation of a tool like 5S or a large-scale transformation. When doing so, GPAllied provides critical support during implementation of your operations solution, including the following:

- Building a business case for change
- Selecting Key Performance Indicators and Developing Benefits Tracking Systems
- Ensuring correct application of tools
- Driving the transformation project forward
- Developing your Implementation Team through Learn Do, or training and coaching your Green Belts and Black Belts
- Teaching and coaching managers throughout your implementation to help them understand the process changes and their changing roles

GPAllied provides the following tools and methods separately or integrated within a transformation project:

Leadership and Change Management

- Deploying an Initiative Workshop
- Leadership Alignment Workshop
- Leadership Boot Camp
- Improvement Office Development
- Implementer Methods Immersion
- Leadership Team Coaching
- Teaming for Success

Management Systems

- Measuring What Matters
- Guiding Principles
- Production System
- Daily Management System
- Goal Deployment System

Performance Improvement

- 5S and Visual Management
- Standardized Work
- Problem Solving: FFA, A3, and STP
- Quick Changeover
- Production Cells
- Pull Systems
- Leveled Production
- Continuous Flow Processing
- Error/Mistake-proofing
- Job Methods and Job Instructions
- Routine Equipment Care
- TPM
- Supply Chain Improvement

If your organization needs to transform operations, then GPAllied provides a transformation roadmap that applies the right mix of methods and tools to meet your organization's needs:

- Select a value stream/pilot area and perform value stream mapping and transition planning
- Implement improvements on the value stream/pilot area, and develop implementers and managers
- Design and deploy the best practices for your operating and management systems
- Establish and implement a plan for refinement, replication, and deployment

Reliable Capital Delivery

The difference between effective and ineffective launching of a new facility or installing a new asset is costly in terms of time, money, and customer satisfaction. People, processes, and technology—these are the essential elements of your industry. When it's time to bring your business to a higher level, all three (3) must be ready. GPAllied provides a suite of services designed to make your capital project launch successful. We categorize these services as follows:

Design/Build Services

- Design Verification/Optimization
- Life Cycle Cost Analysis
- Construction
- Construction Management
- Procurement
- Facility Layout for Lean Manufacturing
- Design for Condition Monitoring

Engineering Services

- Civil
- Mechanical
- Electrical
- Chemical
- Fire Protection
- Environmental
- Safety

Installation, Commissioning, and Operational Services

- Commissioning, Acceptance Testing and Operational Support
- QA/QC, Witnessing, Inspection and Test Plans
- Warranty Claim Management
- Spares Optimization
- Quality System Implementation
- Workflow Processes Development
- Procedure Development
- Project Management

Workforce Selection and Development Services

- Employee Screening and Selection
- Operator and Maintenance Training
- Leadership Development and Culture Establishment
- Custom Certification Programs
- Training Center Construction
- OEM Training and Documentation Coordination
- Knowledge Management Systems

Reliable Maintenance Execution

GPAllied provides on-site maintenance management and process-improvement training, coaching, and facilitation for your specific needs, timing, and budget. We work side-by-side with your management and crew to improve the entire maintenance work cycle and the processes that support it. GPAllied helps your organization clearly understand and improve maintenance performance; and streamline, agree to, document, and institutionalize your company's best practices resulting in bottom-line cost reduction and higher equipment utilization. GPAllied provides critical support during implementation of your maintenance solution, including the following:

- Building a business case for change
- Selecting Key Performance Indicators and Developing Benefits Tracking Systems
- Ensuring correct application of tools
- Driving the transformation project forward
- Developing the Implementation Team through Learn Do, or coach Reliability Green Belts and Black Belts
- Teaching and coaching managers throughout the implementation to help them understand the process changes and their changing roles

Reliable Maintenance Execution requires the creation/improvement of the following elements:

- **Strategy Development:** The analysis of predominant failure modes and their effects leads to the development/assignment of Proactive Inspections like Preventive Maintenance (PM) and Predictive Maintenance (PdM) tasks as countermeasures.
- **The Maintenance Work Cycle:** The identification, prioritization, planning, scheduling, preparation, execution, and reporting of maintenance tasks; and the assessment of maintenance task performance and equipment history.
- **Work Measurement and Execution:** The cost-efficient and effective performance of maintenance tasks with people having the right skills and following maintenance standard work.
- **MRO and Lubrication Management:** The determination of quantities of spares, storeroom management, vendor management, and repair specifications; and the consolidation, labeling, and storage of lubricants.

GPAllied offers the following solutions:

- Shutdown, Turnaround, and Outage (STO)
- MRO and Lubrication Management
- Phase I Assessment
- Phase II Development
- Hierarchy and Master Equipment List Development
- Equipment Walk-Down
- Criticality Analysis
- Equipment Maintenance Plan (EMP) Development
- Preventive Maintenance Evaluation (PME)
- Preventive Maintenance Optimization (PMO)
- Advanced Machinery Diagnostics
- Baseline Asset Health Audit
- Historical Failure Analysis
- Reliability Centered Lubrication
- Asset Health Management
 - Condition Monitoring Work-Scope Generation
 - Analyst and Technology Specifications
 - Supplier/System Audit
 - Skills and Competencies Development and Assessment
 - Contract/System Implementation
- Maintenance and Reliability Kaizen Event
- Solution Design (Defect Elimination)
- Solution Planning and Implementation
- Sourcing Strategy
- Maintenance Craft Skills Training

Maintenance Craft Skills Training

The diverse needs of today's maintenance workforce can't be met with a single canned solution. Producing multi-skilled maintenance technicians demands a multi-tiered solution that addresses diverse skill gaps and training needs. GPAllied's solution, based on years of maintenance training, allows us to deliver the best training solution to your maintenance technicians regardless of their level of need. It all begins with a needs or gap analysis, followed by a training strategy design and customized course development and delivery. Our depth of experience and qualified maintenance experts ensure a highly targeted program that transcends the limitations of canned approaches, and is based on a progression through four competency levels:

- **Level 1:** The Core Competencies level provides the basic essentials for new hires or entry-level employees, and focuses on core math, print reading, and technical skills to ensure that they can perform at the higher levels.
- **Level 2:** The Fundamentals level introduces much of the theory, such as Kirchhoff's Law and Pascal's Law, associated with the maintenance processes and includes basic concepts of hydraulics, pneumatics, pumps, PLCs, motors, etc.
- **Level 3:** The Advanced Fundamentals level transfers the theory and knowledge elements into practical applications. This level ensures that your maintenance professionals are trained to perform all of their required tasks and gives them the hands-on learning opportunities to practice these critical skills.
- **Level 4:** The Equipment Specific Training level ensures that your maintenance team is fully capable and well trained on the use and maintenance practices specific to your equipment.

GPAllied, your total solutions partner, provides the following services:

- **Assessment and Planning.** GPAllied provides Program Evaluations, Training Needs Assessment, Delivery Mode Analysis, Curriculum Architecture, and Training Plan Development.
- **Training Development.** GPAllied provides review of prior training, and the analysis, design, development, and evaluation of customized training.
- **Training.** GPAllied provides structured OJT programs, Train-the-Trainer Programs, On-Site Instruction (classroom or hands-on), Computer/Web-Based Training, and a large number of maintenance skills and maintenance systems courses.
- **Training Center Management: Apprentice programs.** GPAllied provides employee testing, screening and selection; establishment, staffing, and management of craft training centers; training administration and logistics; structured on-the-job training; and certification programs.

Personnel Qualifications and Work Execution Standards

Personnel Qualifications

Before a GPAllied person is deemed *Task Qualified* on a particular deliverable, they must meet a specific set of criteria. The criteria are based on the knowledge and experience required to maintain the highest standard of execution. The detailed qualification standards contain the following:

- Background
- References/Body of Knowledge
- Qualification Levels
- Education, Training and Experience Requirements
- Certification

For each of GPAllied's processes and accompanying tools, there exists a training and qualification process which must be followed to ensure the integrity of the overall concept and process deliverable. GPAllied has developed a four (4) tiered approach for the qualification of delivering and utilizing our processes and tools.

- **Level I (User):** This level of qualification is accomplished through successful completion of the training class or workshop associated with the process/tool. During the training session, each participant will be taught the concepts behind each process and/or accompanying tool. After the session, field homework is assigned to reinforce the concepts covered in the classroom. Successful demonstration of the ability to use the process/tool will constitute qualification as a Level I User.
- **Level II (Coach):** This level of qualification is accomplished through the successful completion of a one week, process and tool specific, targeted training session. Each process requires a combination of course training and on-the-job (OJT) training and one day of task observation. During the course training both the process and tool requirements will be explained in detail to ensure the trainee has the ability to perform each task appropriately. The OJT training is utilized as an evaluation method, specific training objectives and observation materials will be used. This training is structured to properly evaluate an individual's knowledge, skills and abilities to perform the desired task. Upon demonstrating their ability to perform the given task(s), they will be qualified as a Level II User. The Level II training develops a more thorough understanding of the intricacies of both the tool and the process than Level I.
- **Level III (Instructor):** This level of qualification has a pre-requisite requirement that the individual has been through either the Level I or Level II qualification process and is a GPAllied employee. The participant will be evaluated through their performance of carrying out the desired task unassisted. The evaluation process is used to determine not only the individual's ability to perform the task unassisted and thus demonstrating their knowledge, skills and abilities, but also to determine their ability to respond to any abnormal conditions that might occur. Upon successful demonstration of the ability to perform the given tasks, without assistance, they will be qualified as a Level III User.
- **Level IV (Discipline Leader):** This level of qualification has a pre-requisite requirement that the individual has successfully completed Level III of the qualification process. The Level IV User not only has mastered both the process concepts and tool applications, but the user also has the administrative authority to modify integral tool functionality. Each GPAllied process has a Level IV Discipline Leader which owns the Management of Change (MOC) process and understands how that process integrates with other GPAllied processes.

Work Execution Standards

The execution of all of GPAllied's specific deliverables is guided by a specific work execution standard. This standard is in place to guarantee one thing...consistency of execution. Whether you are working with us in North America or Malaysia, the delivery of a class, a workshop or a specific consulting project, will be done to the same exacting standard.

Contained within the Work Execution Standard for each of the key deliverables will be items like:

- Scope and Purpose
- Terms and Definitions
- Key Concepts
- Process Overview
- Specific Procedures
- Process Exceptions
- Key Performance Indicators

Stakeholders inside of GPAllied follow a common MOC procedure for getting modifications made to the standardized deliverable. This is not to say that flexibility of delivery isn't possible. In fact, flexibility is required for your success. But fidelity to the core concepts of the deliverable is the cornerstone of attaining successful results.

Training Classes

At GPAllied, we understand that you are not interested in "training for training's sake". You need hard-hitting, impactful training that addresses the specific need of your employees, delivers value for your training dollars, and produces bottom-line results. That's what we deliver.

In today's increasingly competitive business environment, your training investment only makes sense if it yields a tangible improvement in KPI's like:

- Production efficiency
- Asset downtime
- Employee retention
- Labor costs
- Quality control
- Safety

With over 200 courses that can be easily customized to your equipment and processes, we are the one-stop shop for all of your technical and change management training needs. We offer these classes on-site at your facilities, for your employees; or periodically around the world on an open-enrollment basis.

Please contact us for more specific information on training in the following areas:

- Asset Health Assurance
- Reliability Engineering
- Lean
- 5S
- Six Sigma
- Change Management
- Leadership and Management Systems
- Operator Maintenance
- Electrical Maintenance
- Mechanical Maintenance
- Instrumentation and Control Systems
- Planning and Scheduling
- Shutdown, Turnaround, and Outage Management
- Project Management
- Safety and Environmental



www.gpallied.com

GP*Allied* is the most diverse reliability and operations consulting and services company in the world. Our technical expertise, product portfolio and global reach are unmatched. This diversity is our considerable strength. It enables us to develop significant value propositions for you by delivering solutions across different industries, different geographies and, even more importantly, across different aspects of your operation.

In our constant strive to deliver greater value to you, we have sourced recognized industry experts to join the GP*Allied* team. We have extensive experience across all industry sectors and in the specialty fields of Lean, Reliability Engineering, Six Sigma, Condition Monitoring, Change Management, Maintenance Planning and Scheduling, Workforce Development and Maintenance Craft Skills training.



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