



Outliers Short Interval Control Solution

Deployment Plan

Outliers Mining Solutions: Your Trusted Partner for Delivering Real Value

OUR POSITION

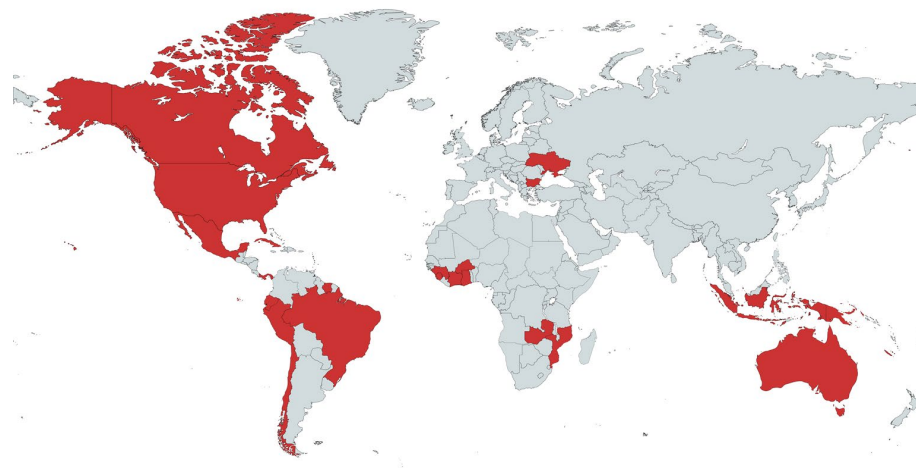
At Outliers Mining Solutions, we've earned a reputation **for increasing productivity at mines around the globe**. We are your partner of choice for delivering tangible and lasting positive impact on your mining operations, leveraging

- Proven methodology based on management science, data analysis and practical experience
- Consultants with many years of distinguished operating experience prior to joining our team
- Deep commitment to delivering impactful change and transferring technical and leadership skills to clients

So when you need an advisor with a distinguished track record and deep industry experience, **Outliers is a miner's major advantage**.

Through proven solutions that last,
we improve your operation's performance
& reliability, and help you develop
high-performing mining leaders

WE ELEVATE THE WORLD'S POTENTIAL

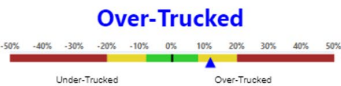


The Outliers Advantage

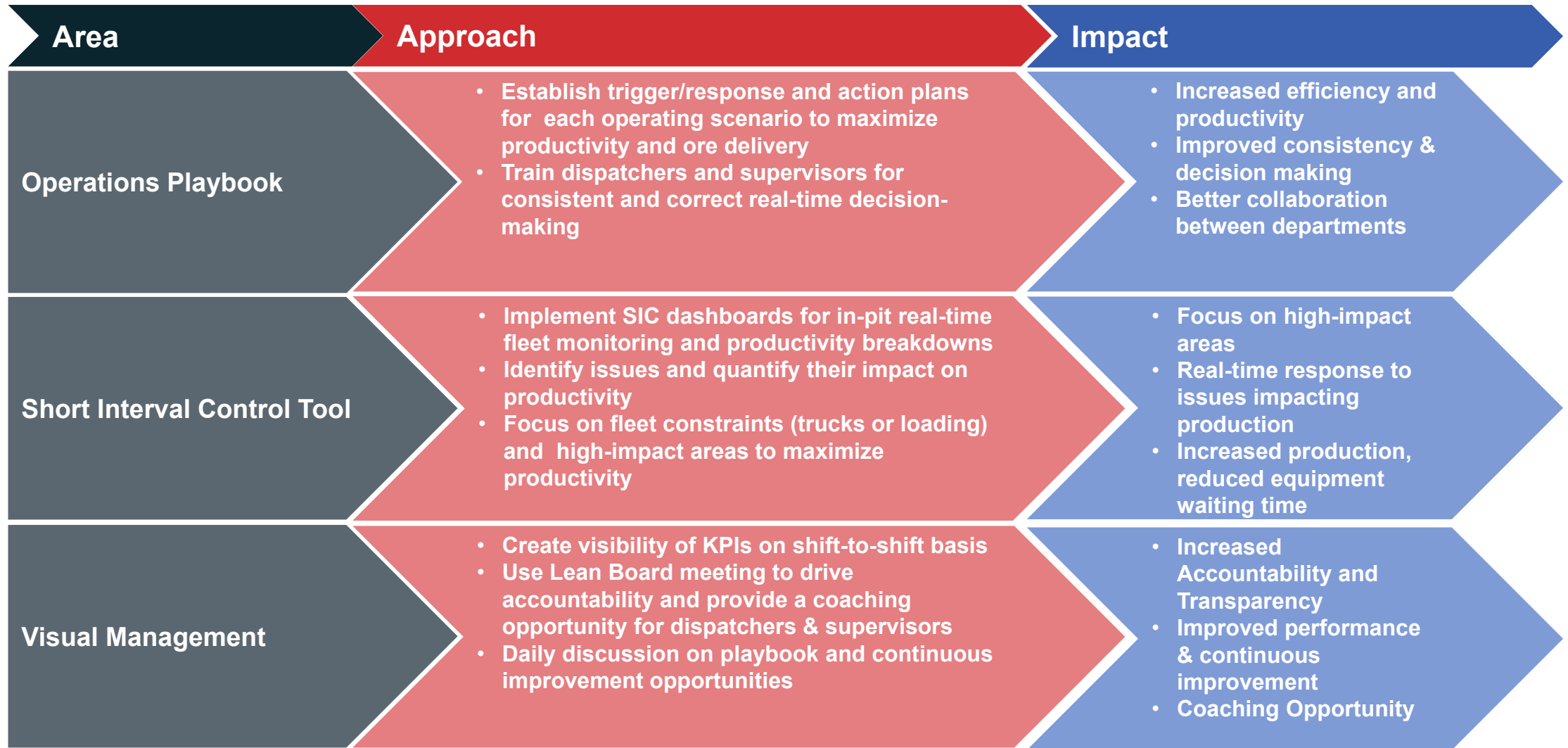
- Outliers have a proven track record of operational performance improvement based on **operating scenario best-practice, short-interval control** and **visual management**
- Our consultants are experienced miners, with hands-on experience as **mine operations leaders**. They are well-versed in the challenges of day-to-day operations.
- Our fully-developed, proprietary software solutions provide operations and dispatch the visibility they need to understand their operations in real-time. These dashboards can be **implemented in 12-14 weeks**.
- The Short Interval Control solution is fully supported for the duration of the license agreement, including regular updates and upgrades.

Haulage Summary		SCORE	
Potential (inc)	126,139	87%	
Actual Dumped (inc)	109,951		
Actual Dumped (exc)	7,097		
Actual Loaded	117,048		
BCM/NOH	274		
+/-BCM	(16,188)		

Loading Summary		SCORE	
Potential	116,540	95%	
Actual Loaded (inc)	111,020		
Actual Loaded (exc)	7,027		
Actual Loaded	118,047		
BCM/NOH	2,011		
+/-BCM	(5,520)		



Overview - Outliers Short Interval Control Solution



Short Interval Control Solution

Program Details

Mine Operations Playbook

Defined

- Create a set of trigger/response and KPI accountabilities for the dispatcher, 12-5 and production coordinator
- Action plan for each operating scenario to maximize the productivity of the fleet and ore delivery

Benefits:

- Clear and transparent expectations and accountabilities by role
- Establishes standardized response leading to greater efficiency and consistency
- Quick decisions made in real-time to increase productivity and profitability
- Can serve as a training tool for new dispatchers and supervisors for best practices in all operating scenarios
- Includes communications plan with Processing, Maintenance & TS

Short Interval Control

Defined

- SIC dashboards provide a framework for real-time monitoring of fleet performance
- Detailed breakdown of all the elements of productivity and their quantified impact on mine production
- Can be provided in-pit on a mobile device

Benefits:

- Allows quick response to changing conditions and identification of issues to reduce the impact on productivity
- Quantifies impact on production for each KPI. Dispatchers and Supervisors focus on areas having the greatest impact
- At-a-glance performance updates in real-time.

Visual Management

Defined

- Visual Management (Lean Boards) trending key performance KPIs for Mining Supervisors and Dispatchers at the end of each shift

Benefits:

- Creates accountability and transparency in performance
- Tracks performance trends over time (rather than a single snapshot)
- Provides a coaching and training opportunity for superintendents with dispatchers and supervisors
- Did we execute the playbook based on what the Short Interval Control tool was telling us?
- Opportunity to highlight and discuss continuous improvement focus areas on a shift-by-shift basis

Short Interval Control Solution

Mine Operations Playbook

Sample Operating Scenarios with RACI & action for each team member.
Provides standard response in each operating scenario

Over-Trucked Truck Actions

Over-Trucked

Overall Strategy:

Shovel Productivity = Mine Productivity (shovels are the bottleneck)

Adjust blend and waste haul to favour *planned* long-hauls
(save planned short hauls for under-trucked situations)

Description:

Not enough Shovel Capacity and consistent truck wait at shovel
Could be short term or consistent for duration of shift or set

Reasons for the situation include:

- Low Shovel Availability
- Consistently high truck availability
- Hauls are and cycle times are short
- Waste routes are down for weather or access blocked

Consider hauling to longer planned dumps
(save short hauls for under-trucked scenario)

If over-trucked for short duration (less than 1/4 shift), look for opportune fueling, service, or minor maintenance for excess trucks

Coordinate truck switchouts to minimize any shovel hang time

User 797s on longest hauls where possible.

Additional considerations:
If entire mine is over-trucked, move small trucks to ore and 400T trucks to waste
If consistent carry-back due to frozen material (most likely OB), keep small trucks in OB

If no shovel hang time and if >6 min Wait Time for +1/4 of shift, Park trucks:
(follow the Rental Matrix – 44-16 is the owner)

- 1) Highest cost/tonne rental trucks (ensure they are shut off)
- 2) Highest cost/tonne Syncrude trucks

Note: park in central productive locations

Mine Superintendent
Dispatcher
Truck Leader

Dispatcher
Truck Leader

Dispatcher
Truck Leader

Mine Superintendent
Dispatcher
Truck Leader

Mine Superintendent
Truck Leader
Dispatcher

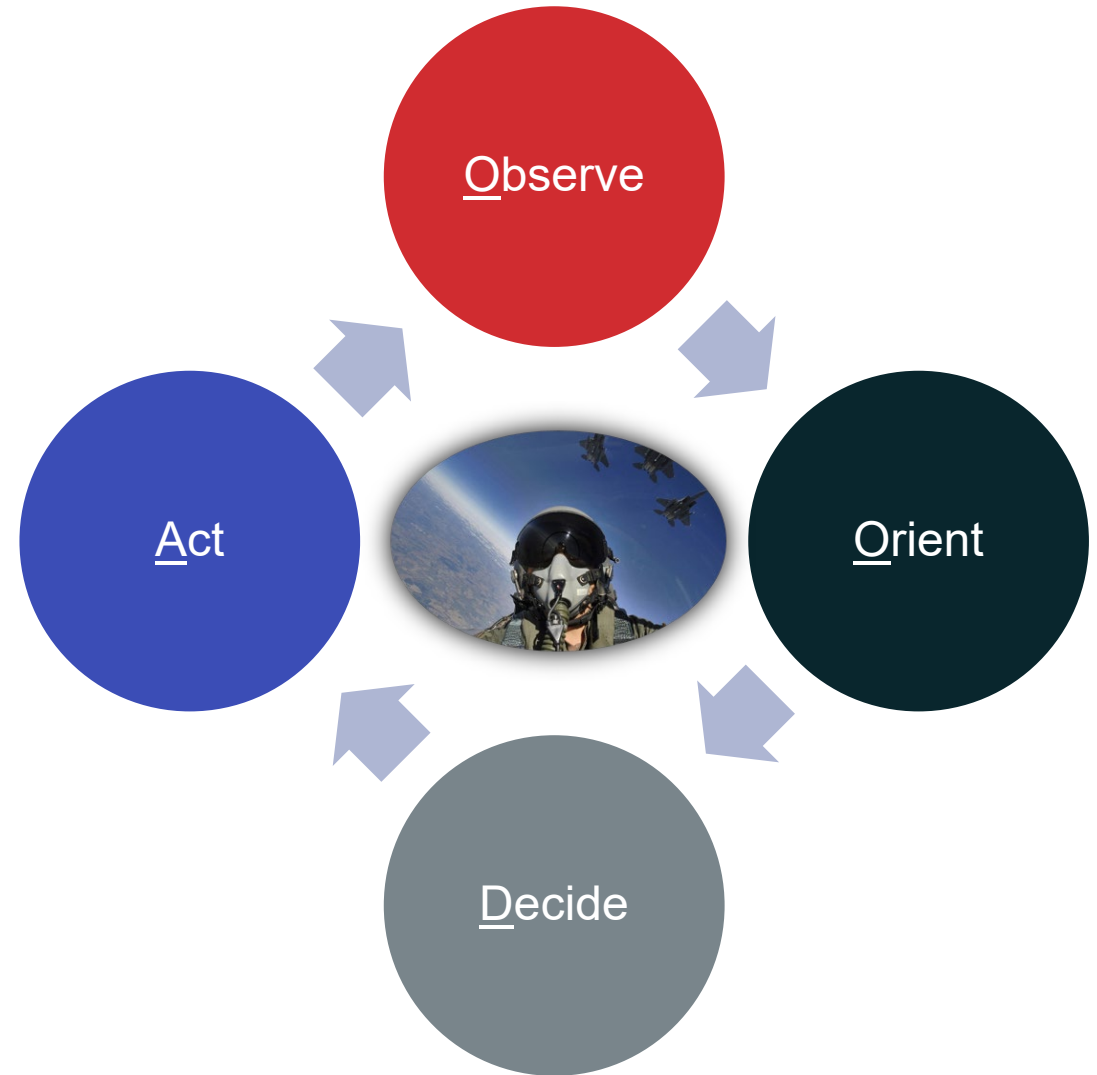
● Responsible ● Accountable ● Consult ● Inform

OUTLIERS

Short Interval Control Solution

Data-driven Course Correction

- Short Interval Control drives productivity improvements during the shift
- Identifies trends in real-time to take corrective action and capitalize on potential gains
- Bridges the gap between post-shift analysis and real-time monitoring
- Quantifies tonnage lost/gained for various KPIs in the haul/load cycle
- Gives dispatcher and mine supervisors the information they need to act and address issues impacting production.
- Visual Management provide a framework for superintendents to drive accountability and ownership of performance KPIs with dispatchers and operations supervisors



Short Interval Control Solution

Coaching for Field Supervisors & Dispatchers

A TOOL IS JUST A TOOL

The Outliers Performance Management tools and framework have a long history of delivering value to our clients. Typical improvements from the 15+ engagements around the globe range from 10-25% in either increased material movement or a reduction in equipment hours. The tools' value is proven, but training, coaching and knowledge-transfer are required to deliver real improvement.

SIC AND SCORECARD COACHING

- Led by our Mine Operations specialists- we provide coaching for field supervisors on the use of the SIC dashboards
- Facilitate and provide feedback and coaching with superintendents, supervisors and dispatchers
- Measure improvements to operational performance during the coaching period
- Train the site team on the use and configuration of the dashboards
- Measurement of weekly improvement in agreed performance KPI's associated with Short Interval Control adoption

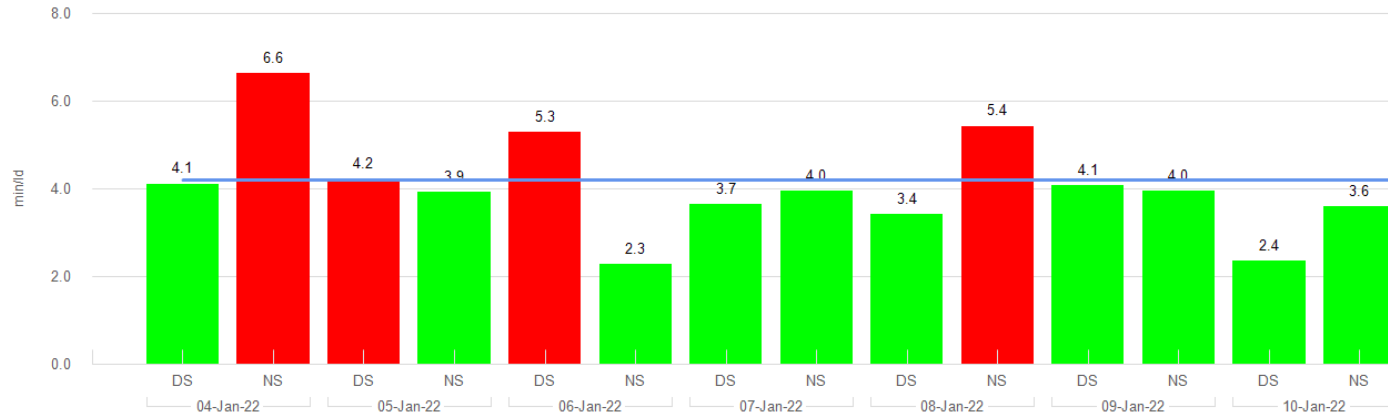
OUTLIERS PERFORMANCE MANAGEMENT TOOL COACHING

- Feedback on adoption level and improvement tips for dispatchers.
- Measurement of weekly improvement in agreed performance KPIs associated with Short Interval Control adoption.

Short Interval Control Solution

Visual Management

Wait on Trucks (Waste Shovels) Owner: Joe Smith



- Shift performance KPI meeting
- Visual Management meetings with digital dashboards and detailed KPIs
- Discussion of key KPI trends for each shift.
- What action was taken in real-time? Did we respond based on the operations playbook?

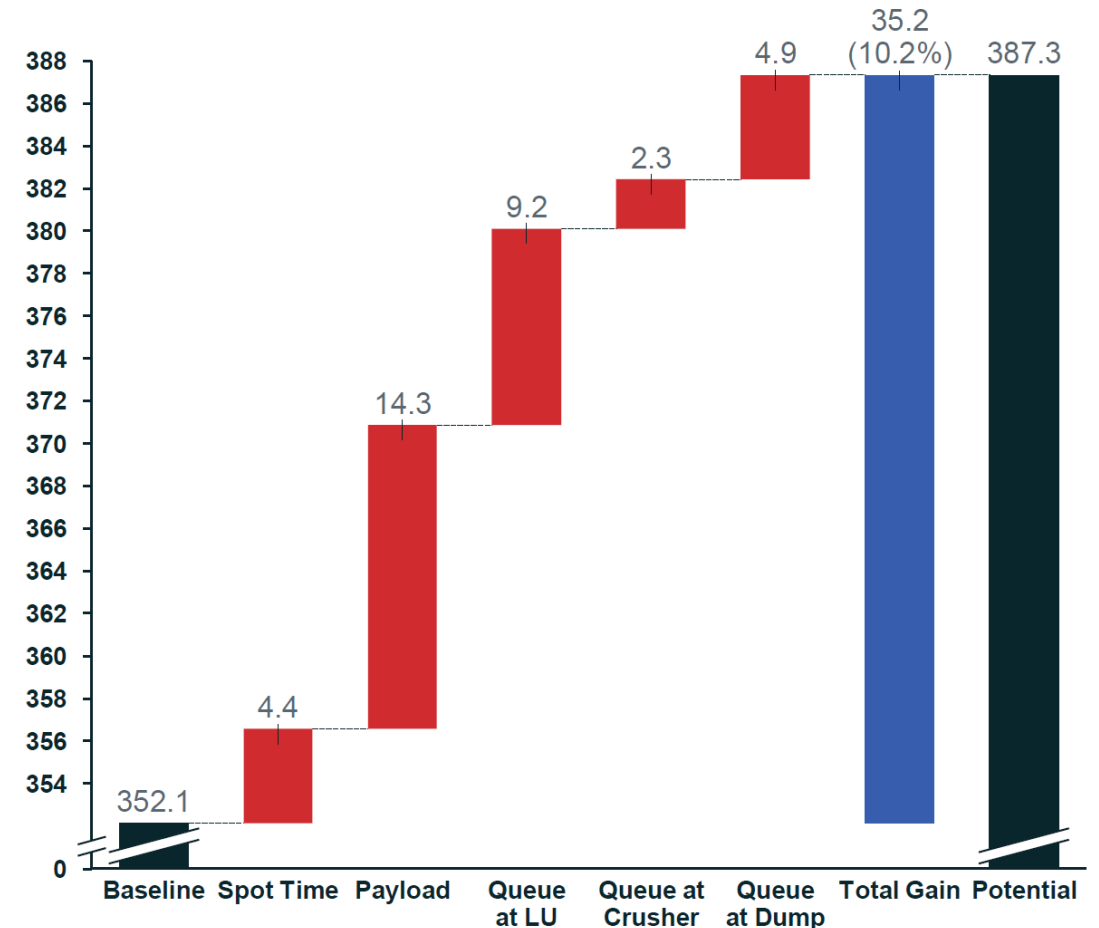
Scope of Work – Remote Data Analysis & Benchmarking

REMOTE DATA ANALYSIS, BENCHMARKING & OPPORTUNITY ID

Outliers proposes to conduct a data analysis, benchmarking and opportunity identification exercise to measure and understand the performance at our client mines.

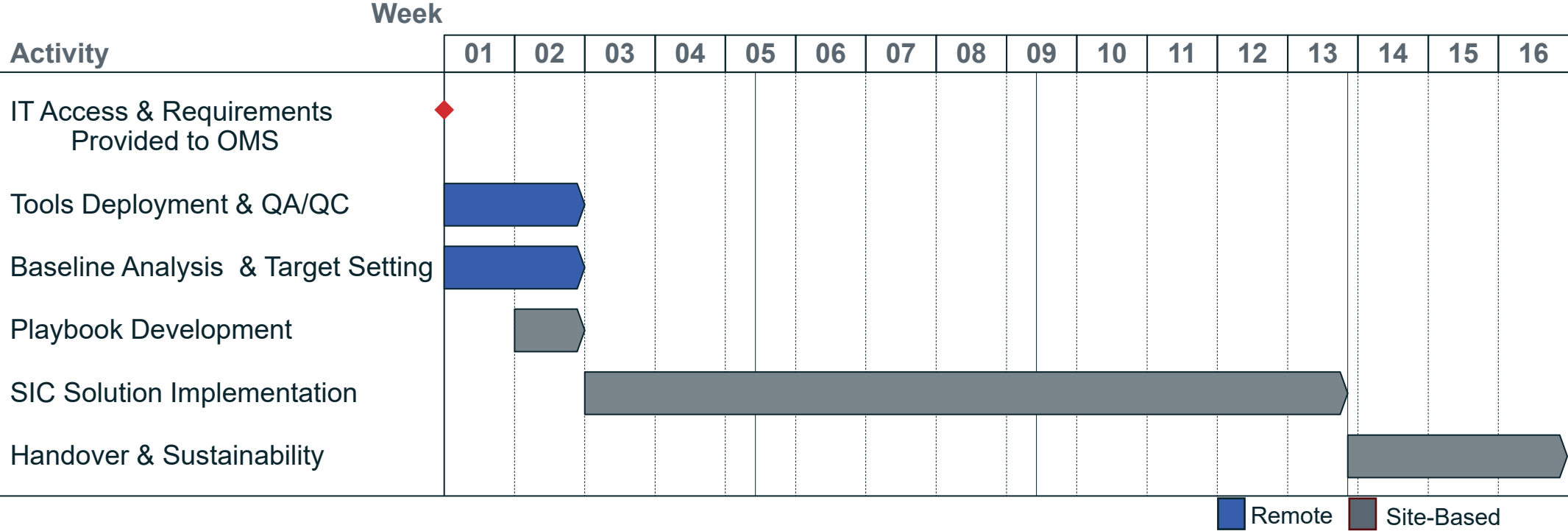
- Agree on a baseline period within the last 12 months to represent current operational performance and representative operating conditions.
- Create a detailed capability model for loading and hauling fleets using FMS data. Understand truck & shovel balance and capability of the mining fleet
- Perform statistical analysis on each utilization and productivity driver, including historical trends, variability, and crew/operator performance.
- Quantify potential increases in tonnage/volume for identified opportunities.
- Use this baseline to populate Short Interval Control tool assumptions and inputs

Outliers Mining Solutions benchmarking database comprises operations across North and South America, Africa, Europe and Australia of varying size and equipment types.



**Example of our Opportunity Identification for an Open Pit Mine (in tons)*

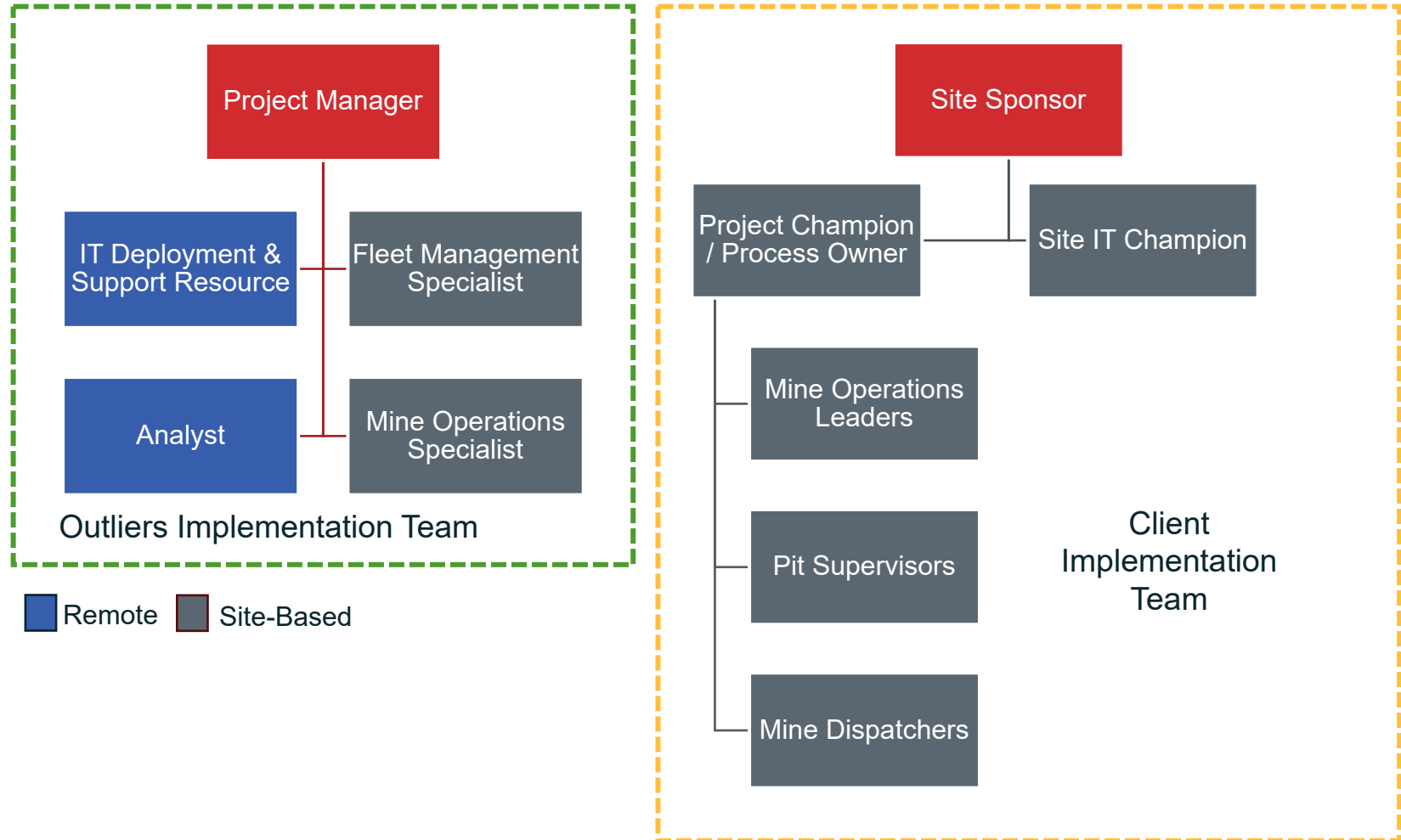
Deployment Timeline for SIC Solution



- Timeline for full deployment and implementation of SIC solutions is approximately 16 weeks
- Outliers can deploy the SIC tool within 5-7 days of receiving the required IT access and server resources from the site. QA/QC is completed once Outliers has a site presence to validate data
- Site time is focused on operations playbook development, SIC process implementation as well as training and coaching with mine operations teams – Mine Dispatchers, Pit Supervisors and Leadership

SIC Solution Implementation – Project Resourcing

- Outliers' site-based implementation team includes a fleet management specialist and a mine operations specialist
- Depending on the site maturity and resources available in the client implementation team, there may be an opportunity to reduce Outlier's site presence through a train-the-trainer model
- Outliers will require site presence for successful implementation
- Outliers can implement **concurrently at up to 3 operations** depending on the site maturity, language requirements and resources available in the site implementation team



Site Deployment Cost Estimate

PAYMENT CONDITIONS

- Outliers will perform this work on a Time & Materials Basis.
- Items outside scope may be executed by mutual agreement in reference to the daily consulting rates outlined at right.
- Expenses for travel and other out-of-pocket costs will be billed at cost.
- Travel arrangements will be agreed in advance.
- The following costs will be expensed by Outliers and are **not included** in the cost estimate:
 - Business class travel to and from the mine/site/offices or designated pickup point (airfare and ground transportation)
 - Meals, accommodation
- Project fees are exclusive of applicable taxes or expenses.
- Payment terms are net 30 days from invoice date.
- All prices quoted and payable in US Dollars and are valid for 30 days.

Consulting Fees	Daily Rate	Days	Total (\$USD)
Project Manager / Director	\$2,500	15	\$37,500
FMS Specialist	\$2,000	44	\$88,000
Mine Operations Coach	\$2,250	44	\$99,000
Analyst	\$2,000	5	\$10,000
5% Admin Fee			\$11,725
Total			\$246,225

Software Fees	Total (\$USD)
Configuration Fee (1-time)	\$6,855
SIC Tool (Annual License)	\$115,000
Scorecard Suite (Annual License)	\$35,000
Total	\$156,855
Total Recurring	\$150,000

- Software License can be provided for free on a trial basis during the deployment period
- This license price reflects a single-site deployment. Enterprise deployments will reduce the per-site costs.

About Outliers Mining Solutions

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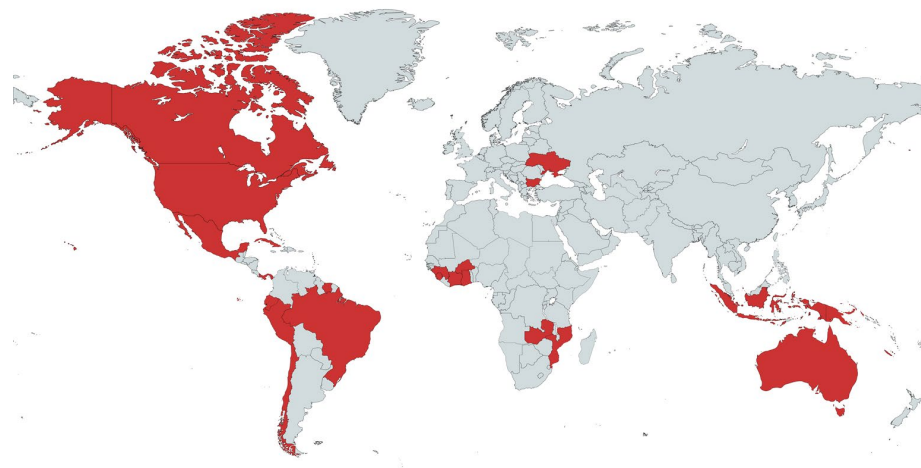
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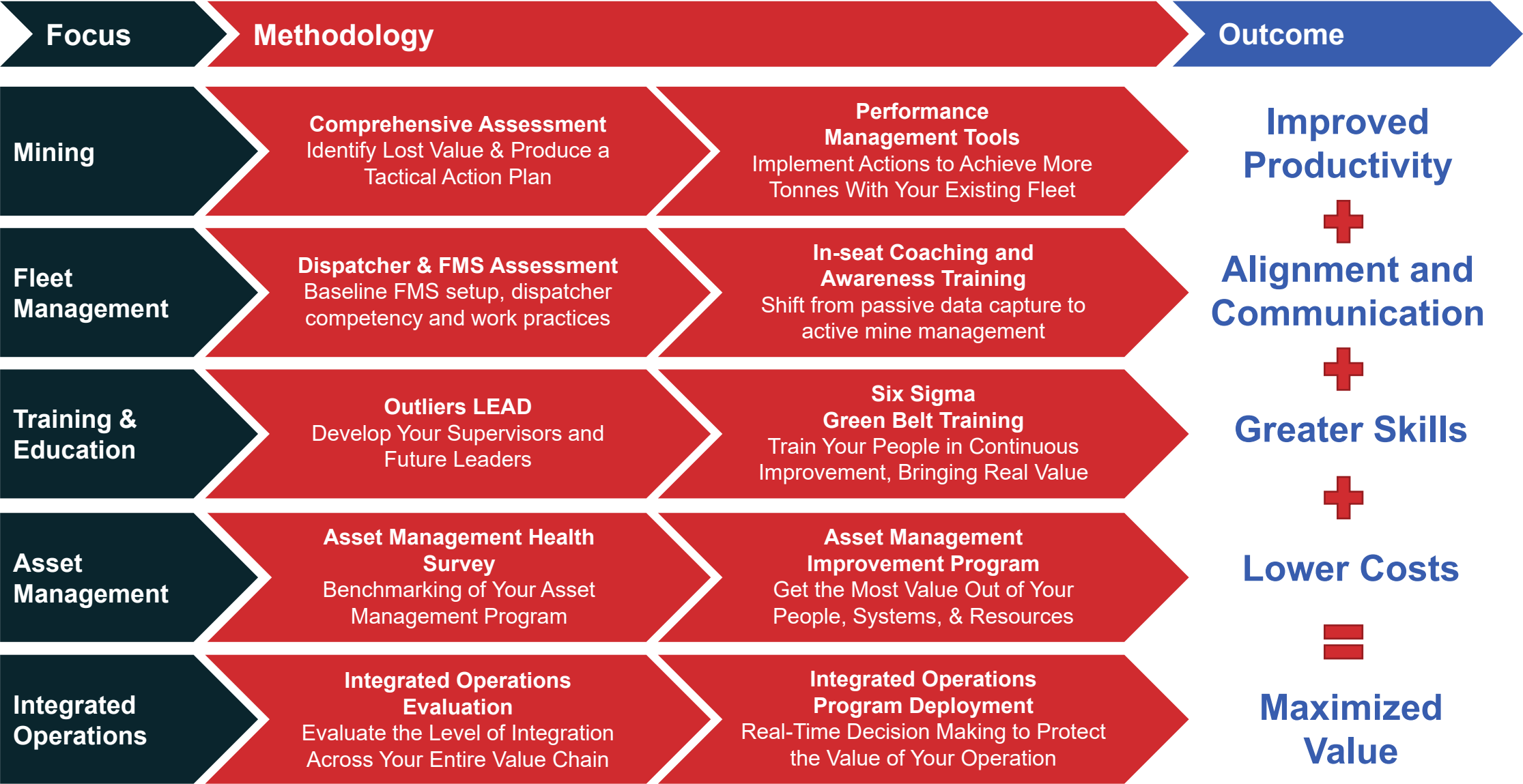
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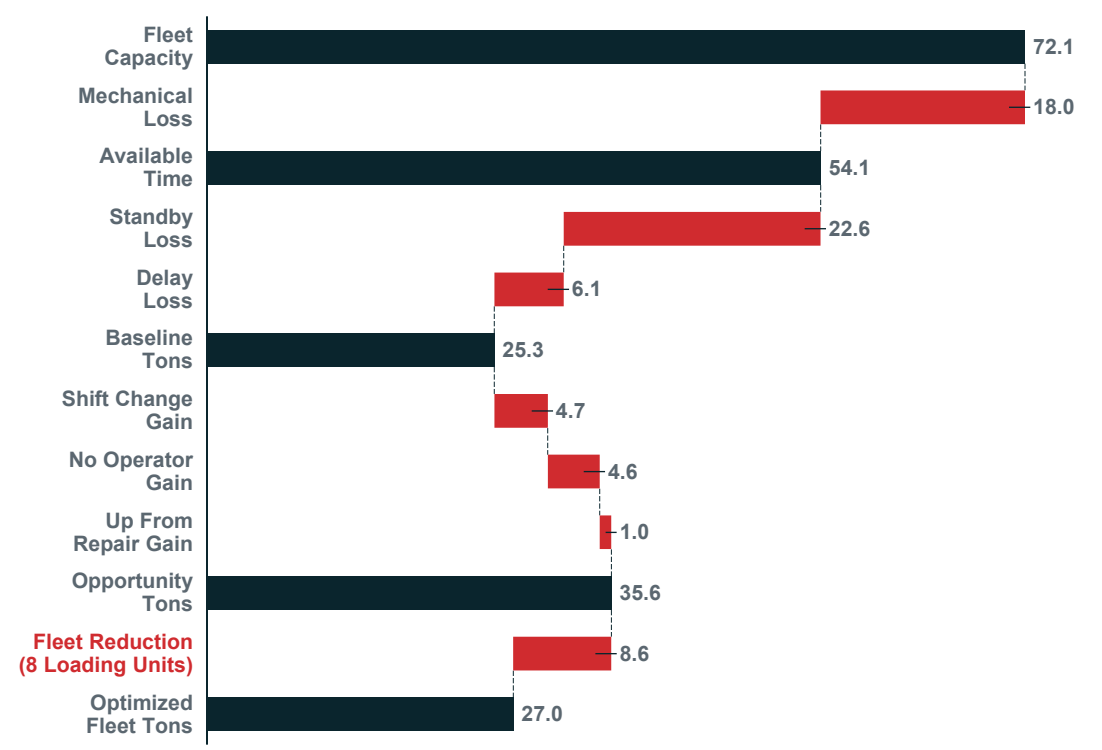
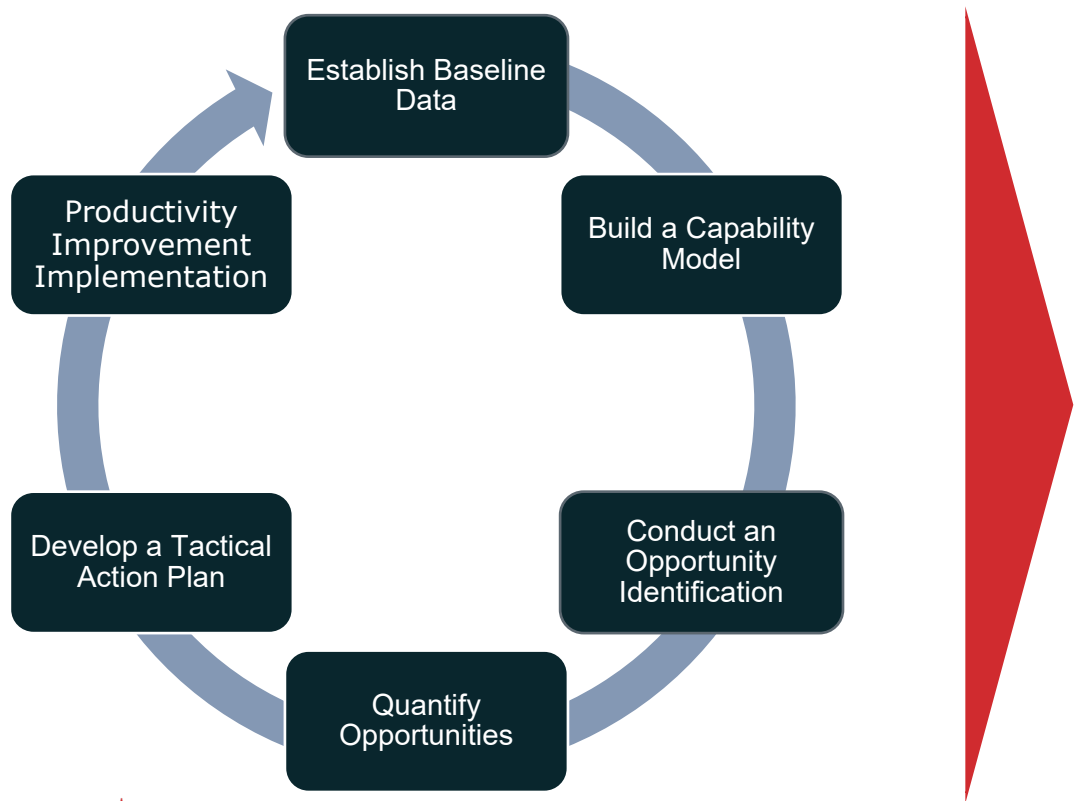
Our Solutions Unlock Your Full Potential



Mining, Helping You Get the Most Tonnage Out of Your Existing Fleet

OUR PROCESS

We evaluate your Fleet Management system data to identify areas of lost production and provide a Tactical Action Plan to reduce delay and standby time, allowing you to increase production, or decrease your Fleet Size, maximizing the value of your existing assets.



Training & Education, Develop Your Leaders & Upskill Your Workforce

OMS LEAD

Our OMS LEAD Program helps ensure your supervisors are spending their time adding value to the organization and develops “up and comers” within your organization into the Leaders of Tomorrow. This program was “**Built By Miners, For Miners**”, and can be deployed to a single site, or developed at the corporate level to let you build a **culture by design, not by default** for your entire organization.

Utilizing our **Train the Trainer** model, our goal is to leave you with a quality product that can continue to be delivered sustainably by your own people, long after we have left the site.



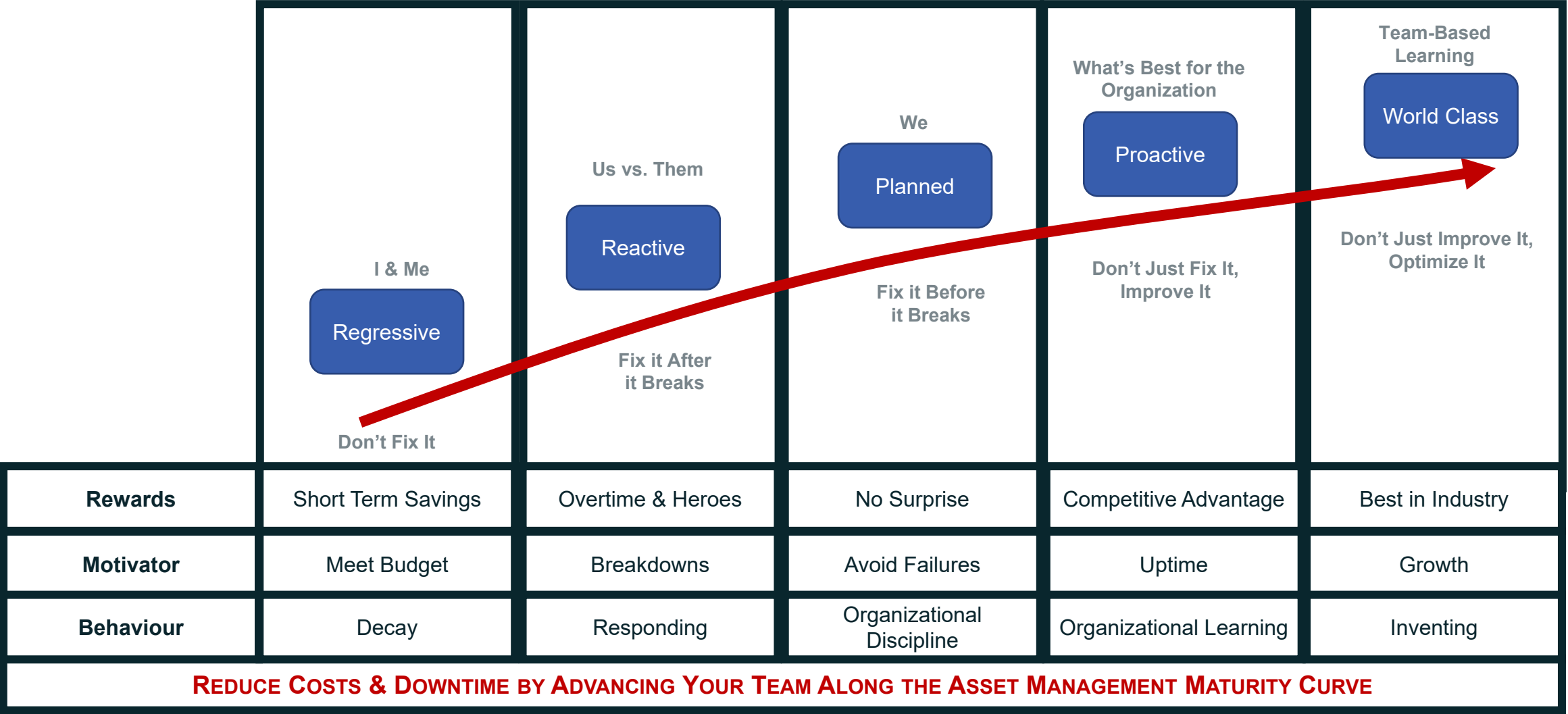
Example Projects – Medium Sized Gold Operation in Canada (Partial List)		
Project Title	Success Factor	Annual Project Value
Increase Drill Yield	Gold Production	\$2.3 million
Reduce 795 Stop Time	Gold Production	\$6.9 million
Increase Carbon Recovery	Gold Production	\$4.7 million
Reduce “Waiting for Fuel” Delay	Gold Production	\$3.0 million
Improve Carbon Sizing Efficiency	Gold Production	\$1.9 million
Increase Life of Trash Screens	Cost Reduction	\$0.5 million
Total Project Value (annually)		\$19.3 million

SIX SIGMA GREEN BELT

Our program is **Mining-Specific** utilizing real-world datasets specific to our industry to ensure your people are getting value from the program.

Participants of our Six Sigma Green Belt Training provide immediate value to their company by undertaking a Business Improvement Project with a **minimum annualized value of \$100,000** as part of the course.

Asset Management, Make Your Maintenance Program World Class



Integrated Operations, Maximize the Value of Your Mining Operations



PEOPLE



PROCESS



TECHNOLOGY



VALUE

We help you leverage your **People**, **Processes**, and **Technology** to provide **Real Value** to your organization through Business Integration. By breaking down silos between departments and working together as a cohesive unit, you can maximize productivity and reduce costs through operational synergies & efficiencies.

Case Studies



KGHM ROBINSON

NEVADA, USA

A combination of in-seat dispatcher training, supervisor coaching and changes to the mine planning KPI's and monitoring processes were introduced. The successful application of Outliers' Short Interval Control, Operations Playbooks, Visual Management and Task Board led to a step-change in haulage productivity.

Improvements in payload, combine with reductions in Load time, Queue at Shovel, Queue at Crusher led to a documented gain of 14% daily tonnage throughput.



NEW HOPE, BENGALLA MINE

NSW, AUSTRALIA

This mine produces 12Mt of thermal coal per year. An assessment of the fleet management and asset health systems identified significant unrealized potential. Outliers implemented a combined program of dispatcher and supervisor coaching, along with Short Interval Control, Scorecards and Visual Management.

Sustained improvements to dispatching practices, payload, shift change, and operator swap duration led to a 9% improvement in material moved per shift.



MILDRED LAKE & AURORA

ALBERTA, CANADA

Two mine operations with a combined 20 shovels and nearly 150 trucks. The project included intensive Fleet Management System configuration, dispatcher training, development of an operations playbook, implementation of real-time production tools, team/dispatcher/operator scorecards, and extensive production coaching for front-line supervisors.

A Sustained gain of 5-7% in equivalent-distance truck productivity.

Our Fundamentals

BE VIGILANT ABOUT SAFETY

Never take short cuts that compromise your safety or put your teammates or our clients in danger.

ACT WITH INTEGRITY

Demonstrate doing the right thing in all your actions and all your decisions, especially when no one is looking. Always tell the truth. Acknowledge and own your mistakes, clean them up and make appropriate corrections.

BE A BRAND AMBASSADOR AND A MODEL FOR OUR FUNDAMENTALS

Demonstrate a passion for our mission. We're all responsible for and benefit from, our business reputation. Act in a way that models our business fundamentals. Become an expert at clearly articulating our stand for quality work and our value proposition. Protect ours and your reputation. Keep an enterprise-wide perspective for business and the client, knowing that what you do impacts everyone.

ASSUME POSITIVE INTENT

Operate from the assumption the people are good and that the intent behind their actions is positive. Respect and trust create stronger relationships and generate better results than do judgments, sarcasm, doubt, and cynicism.

PRACTICE BLAMELESS PROBLEM-SOLVING

We fix mistakes by focusing on solutions. Then we identify lessons learned so we don't make the same mistakes again. This promotes trust and partnership.

DELIVER UNBELIEVABLE CUSTOMER SERVICE

Take the extra steps to blow away our customers with unbelievable service. Make every customer interaction stand out for its friendliness, warmth, and helpfulness. Be a fanatic about response time and keeping customers updated on the status of their issues.

FIND A WAY

Take personal responsibility for making things happen – somehow, someday. Respond to every situation by looking for how we can do it, rather than explaining why it can't be done. Be a part of the solution, not the problem.

BE ACCOUNTABLE

Own your actions and take responsibility. Ownership accountability means holding yourself to account, holding others to account, and the willingness to be held to account. Be aware and own your impact on others.

LISTEN GENEROUSLY

Listening is more than simply "not speaking." Be present and engaged. Quiet the noise in your head and let go of the need to agree or disagree. Listen with care and with empathy. Above all, listen to understand.

SPEAK STRAIGHT, RESPECTFULLY

Speak honestly in a way that moves the action forward. Say what you mean and be sensitive to your impact in your communications. Remember that disagreement doesn't mean rejection. Address issues directly with those who are involved and/or affected.

Our Valued Clients



BE THE OUTLIER[✦]