

## EQUIPMENT

Maximize the value of your equipment.

## PRODUCTIVITY

Move more material in less time at a lower total cost.

## SAFETY

Send everyone home safely after every shift.

## SUSTAINABILITY

Reduce environmental impact with technology and innovation.

## FINANCIALS

Manage expenses and use capital more efficiently.



# PRODUCTIVITY CAPABILITIES

Meet your production goals at the lowest total cost when you collaborate with Caterpillar Job Site Solutions to optimize fleet productivity. Let's work together, leveraging our productivity capabilities in **Fleet Design** and **Performance Management** to help you improve safety, efficiency and profitability.

## FLEET DESIGN

Your fleet's baseline productive capacity is determined by how it was designed. If you hold the wrong mix of assets—in terms of size, age or ability to work together as a system—you cannot optimize productivity and costs over the long term. Our fleet designers have extensive product and application expertise and use a structured process to build high-performance fleets.

### Site Analysis

We start by evaluating your greenfield or existing site to better understand the unique operating conditions that affect your mobile fleet. Application experts study your operational plan; assess current site conditions; and analyze your economic, physical, regulatory and environmental challenges. This data serves as a factual foundation upon which an optimized fleet can be built.

### Site Simulation

Using information gathered in the Site Analysis, we create a virtual work environment incorporating actual site data and machine operating parameters. We test potential fleets in this environment, uncovering bottlenecks and modifying

workflow to optimize efficiency. Based on this simulation, we identify the best possible combination of assets for your operation, given the constraints identified, as well as the potential capacity of that fleet.

### Fleet Selection

Once we know what an optimum fleet looks like, we evaluate every unit in your existing fleet and recommend whether it should be retained, repaired, reconditioned, replaced or retired. We calculate a projected utilization rate and work with you to choose the combination of existing, new, used or reconditioned assets that best meets your production goals and risk profile.

### Rolling Equipment Plan

Our design work culminates with the creation of a Rolling Equipment Plan. This road map for the future helps you balance asset age, manage future capital requirements and sustain a lowest-total-cost fleet. We work with you to modify and manage the plan as conditions change over time.

*(Continued on page 2)*

## PERFORMANCE MANAGEMENT

With the right fleet in place, our shared goal becomes managing the assets to optimize performance over the long term. We use a proven process and proprietary tools to measure existing performance, identify inefficiencies and recommend changes that address the root cause of problems. We test potential solutions virtually, then select the best ideas to be implemented. This is an ongoing, iterative process—always focused on finding and fixing the next bottleneck to continuously improve efficiency.

### Performance Analysis

You have access to mountains of performance data. We turn that data into meaningful information that guides decision-making. We start by mapping the work segments on your site. Each segment can be measured individually and analyzed in extreme detail by application experts who have the tools, knowledge and experience to pinpoint problems with precision and accuracy. After identifying specific site performance issues, we propose potential changes to optimize efficiency.



**BUILT FOR IT.**

### Testing and Validation

Prospective changes are tested and validated using advanced simulation tools. We assess the impact of planned improvements on total site performance and calculate their expected costs and benefits. This information gives you the facts you need to determine which changes will deliver the best outcome.

### Operator Efficiency

Change often begins with operators. When a fleet has been designed right, operator performance is the single biggest factor affecting productivity and costs. We monitor performance in real time and use our knowledge of site conditions and fleet capabilities to identify problem areas. We address the problems, measure progress and report results achieved. Where training is required, we use Caterpillar Certified Operator Trainers to teach safe, efficient operating techniques. Over time, if operators return to old habits or turnover impacts efficiency, we respond quickly to correct the situation.

### Haul Road Management

Haul road changes can also drive performance improvement. We use data from your on-board systems to identify areas within your haul road network that impede safety and productivity. Application experts propose and simulate potential changes and provide a financial justification for each. After a change has been implemented, we measure the impact and communicate results in customized management reports.

### Stockpile Management

Stockpiles erode profitability, but are often needed to keep your plant running and your customers supplied during production shutdowns. We minimize the financial impact by monitoring and reporting how much material is deposited or removed from your stockpiles and where the removed material is delivered. This can help you reduce inventory, cut re-handling costs and limit administrative time associated with inventory management.

### Load-Out Management

Managing the load-out of your product into trucks, bins, barges or railcars is essential to an efficient operation. We analyze data from your fleet and other sources to determine load consistency, frequency, scheduling efficiency and stockpile location. Based on this analysis, we recommend strategies for streamlining the loading cycle and reducing operator waiting time.



**Put our capabilities to work in your business.**

Caterpillar productivity capabilities can be provided as individual services, but are most valuable when delivered as part of a comprehensive plan to optimize site performance. For more information about optimizing your site, contact your Caterpillar Job Site Solutions representative or visit [cat.com/catsolutions-jss](http://cat.com/catsolutions-jss).

If you are a dealer, go to [dealer.cat.com/jobsitesolutions](http://dealer.cat.com/jobsitesolutions).