

CYIENT

# ENGINEERING A GLOBAL ADVANTAGE IN OFF-HIGHWAY EQUIPMENT

How we work with our clients to help overcome challenges  
for a better tomorrow



## Overview

In today's world, off-highway OEMs are striving to develop equipment with reduced emissions, greater safety, increased fuel efficiency, and enhanced automation while sustaining or enhancing the overall performance. Our rich product and subsystem engineering knowledge, functional expertise, and an understanding of the global standards and regulations enable us to help our clients meet their objectives.

Over the years, we have enabled our clients to innovate and build a competitive advantage while protecting their key intellectual property.

## Our Credentials

- Team of 500+ engineers comprised of product and functional experts
- Delivered more than 5 million hours of vehicle and system-level engineering
- Solutions spanning from concept to prototype development
- Strong product engineering experience in construction, mining, and agriculture equipment
- Established R&D centers in partnership with clients
- Cost savings of up to 20% through value engineering, standardization, modularization, and design automation
- Sound knowledge of global emission norms (Tier 4, Euro 1-5) and regulatory standards (ASME, EPA, OSHA-ROPS)



## OUR SOLUTIONS CAN

- Reduce total cost of engineering
- Support product localization
- Provide flexible engineering capacity
- Accelerate speed-to-market
- Match client's footprint

### Areas of Expertise

- New product development
- Modularization and standardization
- Reverse engineering, reengineering, and VA/VE
- Cost optimization and design
- Knowledge-based engineering
- Compliance engineering
- Process standardization and automation
- Product localization
- Engineering analytics
- Design-to-build

### Key Service Offerings

- Mechanical design
- Simulation and validation
- Motion simulation/kinematics
- Hydraulics and pneumatics
- Aftermarket services
- Electrical
- Embedded electronics
- Should cost analysis
- Software application development
- Manufacturing engineering
- Data analytics

### How We Have Helped Our Clients

#### New Product Development

Engaged in a collaborative engineering partnership to develop and launch a new

100T truck crane in 11 months. We created conceptual design for dehydration and process filtration's large flow capacity refrigerated dryers (big air) and prepared the base layout model considering the package envelope.

#### Product Optimization

We contributed to the design of an award-winning, 40-foot material handler aerial device, achieving a weight reduction of 18-23%. We also developed an innovative analytical tool for validating bare shaft loads.

#### Value Engineering

We handled the multi-circuit routing of mining equipment, resulting in a 12-15% part reduction and 15020% improvement in the manufacturing efficiency.

#### Product Localization

Cyient redesigned a tunnel boring machine to reduce the weight of its key components by 20%, resulting in cost reduction of 300,000 Chinese Yuan per machine. The localization effort helped launch a successful and competitive product in the Chinese market.

#### Analytics

We provided an early detection of asset performance issues and predictability solutions to one of the world's leading off-highway equipment manufacturers, contributing to 10-15% reliability improvements.

## SUB-SYSTEM EXPERTISE

- Operator cab
- Suspension system
- Power and control system
- Boom
- Engines and peripherals
- Outriggers

## About Cyient

Cyient (Estd: 1991, NSE: CYIENT) provides engineering, manufacturing, geospatial, network and operations management services to global industry leaders. We leverage the power of digital technology and advanced analytics capabilities, along with our domain knowledge and technical expertise, to help our clients solve complex business problems. As a Design-Build-Maintain partner that takes solution ownership across the value chain, we empower our clients to focus on their core, innovate, and stay ahead of the curve.

Relationships lie at the heart of how we work. We partner with organizations in ways that best suit their culture and requirements. With nearly 14,000 employees in 21 countries, we combine global delivery with proximity to our clients, functioning as their extended team. Our industry focus spans aerospace and defense, medical, telecommunications, rail transportation, semiconductor, utilities, industrial, energy and natural resources.

Follow news about the company at [www.twitter.com/cyient](https://www.twitter.com/cyient)

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