wood.

Consulting

Global leaders in the provision of advisory services that support project development and asset optimisation.



Wood is a global leader in project delivery, engineering and technical services, providing efficient, integrated solutions across the asset life cycle in multiple sectors. We are proud of our rich heritage which underpins our unrivalled breadth and depth of capability. We employ people with the brightest minds and the sharpest skills, who use our leading-edge technology to help our customers succeed.

160+

year heritage

60,000

employees

60+

countries

Our differentiators include our extensive range of services, the quality of our delivery, the passion of our people and our unique culture. True to our values, we work in an open and transparent way; a committed partner to our customers, supply chain and the communities we work with.

Our values set the tone for what is important in our business, they are the essence of our identity and fortify everything we do.

Care

Working safely with integrity, respecting and valuing each other and our communities

Commitment

Consistently delivering to all our stakeholders

Courage

Pushing the boundaries to create smarter, more sustainable solutions



"Each and every individual in our business has the ability to make a significant impact to our safety delivery. Safety is what we care about most and being safe means looking out for yourself and showing care for your colleagues. Keep safety at the heart of every conversation you have."

Robin Watson, Chief Executive We deliver differentiated technologies, consultancy services, licensor activities and proprietary equipment to support our customers with their strategic investments; including new grassroots facilities, major upgrades and facility operability.

Highly technical teams provide the specialist knowhow and due diligence to make assured decisions on process performance, energy optimisation, yield enhancement and operations management. We also provide value-adding project services for our customers, ensuring the best people are sourced, assessed, managed and retained.

We have an established and proven global track record in supporting our customers from the very early phases of their projects, delivering smart technical solutions which create and sustain value. We leverage our many decades of project execution experience to deliver robust solutions that blend practicality and innovation.

Wood is also very proud of it's long-standing heritage providing specialised research and development support to customers, regulatory bodies and government establishments globally.

Professional consultancy services

Through the provision of consultancy, engineering and asset management services, we partner with our customers to help them achieve:

- Long-term commercial sustainability
- · Increased operating efficiency
- · Improved safety performance
- First-class asset integrity management
- · Extended facility life

Consultancy support that spans the asset life cycle

We understand both sides of the investment cycle, delivering high quality consultancy services to support the design and development of new assets, expansions and upgrades, as well as providing a comprehensive range of core and specialist services for operations, upgrades, integrity, asset divestment or asset acquisition.

Our full life cycle support covers:

- Studies
- · Due diligence
- Asset integrity
- · Technology and process equipment
- Training
- · Professional services



Studies

We help our customers realise the full potential of their investments in a number of ways. From planning and building new facilities to reviewing, improving or decommissioning existing infrastructure, our aim is to define the most suitable logistical and commercial project parameters to enhance production, optimise performance or meet legislative and commercial requirements.

Wide-ranging studies expertise

Our capability is drawn from the broad engineering and technical capability we have within our wider teams. This enables us to tap into resource locally and globally and quickly assemble expert teams to support our customers and provide detailed study advice.

Continuity equals reliability

Our technical teams are experienced in planning, FEED, build and operations, enabling us to deliver initial solutions with a team that can then transition through design into subsequent project phases. We understand what it takes to see a project through from concept into execution, with experience that spans from design to start-up and through ongoing operations.

Concept definition

Wood brings the right level of rigour and consideration in the early and critical stages of your project.

Effective concept and prefeed execution can return enormous value and our studies teams have the mind-set, the processes and tools to access project and operation data to ensure solutions are benchmarked and validated against lessons learned and proven solutions.

Wood provides bespoke, multidiscipline support. In oil and gas, this could include FiD, geology support and access routes, for industries such as mining, we advise on planning and mineral processing, resource validation, geometallurgy and resale or development. We have an almost unique position in that we offer full support of reporting requirements for public disclosure, from preliminary economic assessments through to detailed feasibility studies, safety case and operations readiness.

Technical and commercial assessments

Wood's proven approach in project assurance means we can facilitate, support and manage peer review sessions. We can also help you assess the risk and calculate the financial impact of your choices. With in-depth studies knowledge we provide valuable insight and effective CAPEX and OPEX estimates to help you make the right decision for your business.

We also support our customers with due diligence and commercial services such as insurance, technical, verification, compliance and risk assessments.

Post event, we can provide damage inspection services, quantification and costing, root cause investigation and reinstatement strategies to ensure you have all the information available to make informed commercial decisions.

We also endeavour to get our customers back up and running by providing operational readiness solutions that are asset and customer led.

Late life and decommissioning

Our studies capability extends to late life, life extension, cessation of production (CoP) and decommissioning, with experience that covers all geographies and sectors.

We provide reviews for end-of-asset-life operations and management, through to the detailed pre-operations, maintenance and preparations required before CoP, as well as support with down-manning, dismantling, removal techniques and recycling.

We've provided feasibility studies to support the proposed Generation IV nuclear reactors for the UK Government, analysing the steps required to complete a safe deactivation of the world's largest fusion experiment at ITER.

Due diligence

Wood helps to ensure projects overcome risks, obtain financing, are environmentally compatible and are delivered safely. With a wealth of experience across multiple asset types and sectors our due diligence capability provides detailed and impartial advice to help you make informed financial and investment decisions.

Potential and performance

When you are looking to invest, whether appraising the potential of a new asset or evaluating the performance of an existing one, balancing cost and benefit is crucial; and across the complexities of a large-scale facility it is important to explore all aspects of your venture. Wood's experience is unique, spanning a broad range of sectors and geographies; our network supports customers globally.

Transactional due diligence

When assessing the feasibility of an investment or project you need to know the costs and the expected return. Technical and commercial feasibility are interlinked, and we have the detailed knowhow, crafted from years of hands-on experience in planning and executing projects, to ensure you're informed of all the options and costs.

Our transactional due diligence services are focused on identifying and quantifying critical environmental and engineering risks that could affect the economic viability of an asset. We help owners, financial institutions and potential shareholders understand all implications, so they can make the right decision and build the justification to proceed with their project.

We also assist new owners with the integration of their asset into a portfolio, ensuring that the correct environmental, health and safety management framework and tools are in place to maintain compliance, and that emerging requirements are accurately forecast.

Hazard and risk

We work in many industries where hazard management and risk mitigation is crucial to ensuring safe design and operations.

We have extensive experience in nuclear, mining, oil & gas and government projects where the expectation is always to go beyond regulatory compliance to guarantee that the equipment we design, build and maintain is safe, secure and reliable.

We ensure that safety is embedded throughout every stage of an asset's life cycle. Our experienced technical safety and process engineers have a wealth of experience in working in live producing assets and have handson engineering and operations capability. We have the right tools and necessary industry exposure to manage and mitigate risk within your business.

Track record for delivery

With an independent viewpoint we will always recommend the most appropriate solution for our customers. We draw upon the extensive technical expertise we have throughout our business; as diverse as the assets we support.

We tailor our approach, mixing practical knowledge and consulting skills with rigorous analysis and academic expertise to provide all aspects of due diligence including:

- Final investment decision (FiD)
- Peer review
- Performance evaluation
- Environmental assessment and remedial design
- Consenting services
- Verification and validation
- Technical audit
- Regulatory compliance
- Operational readiness
- Commercial validation
- Risk profiling, assessment and pricing
- Damage inspection and assessment
- Decommissioning services





Asset integrity

We are the leading provider of asset integrity solutions to the energy and industrial sectors, with unrivalled expertise across the asset life cycle.

Our all-of-facility care includes specialist services spanning the whole spectrum of integrity, with expert knowledge in risk-based inspection, operations readiness, maintenance strategies, fitness for service, asset optimisation, training, risk and assurance.

From design to decommissioning

We maximise performance to ensure the successful start-up and ongoing operability of our customers' assets, with a measured approach that ensures productivity is achieved safely and economically.

Wood's established teams provide operational management solutions and training services, repair orders and minor modifications support and a global vibration, dynamics and noise capability with unique scale and experience.

A measured and scalable approach

No two facilities are the same. Each will have different operational and commercial drivers, so when we assess our customers' assets we review their issues in a number of different ways to ensure that the integrity solution we provide is rightsized and fit-for-purpose.

- · Improved processes
- · Operational readiness
- Robust operations and life extension
- · Risk based decision making

Process integrity

We have the world's leading vibration, dynamics and noise team, working in sectors including oil & gas and, power and clean energy.

Vibration induced fatigue is one of the most common causes of pipework failure and this affects many varying industries and facilities, especially process plants. We ensure that any proposed changes to the location, purpose or throughput of plant machinery do not impact on continued operations or cause vibration, dynamics or noise issues for our customers further down the line. We do this by reviewing design specifications and modifications for both new build and existing infrastructure.

A reliable partner

We are adept at developing assetled solutions that are resilient and scalable, providing reliable and measurable efficiencies to support a facility through its lifetime. We look for every opportunity to realise value, be responsive and minimise waste. Wherever possible we promote efficiencies and cost savings to ensure our customers get the very best service from us.

From discrete, one-off tasks to a complete end-to-end project management service; we provide initial analysis and troubleshooting through to design, installation and ongoing operations and maintenance.

Tools and products

Veridian, Wood's web-based screening tool easily identifies the failure potential and risks of small-bore connections and facility piping. It addresses multiple fatigue threats, can integrate into existing integrity programmes, and is complimented by simulation techniques and tools; helping you bridge the gap between initial design and ongoing operations.

On site, our vibration experts apply practical and proven methods accumulated from decades of dynamics and vibration experience to quickly solve your problems.

Our damping and clamping solutions, DamperX helps to solve common operational issues quickly and effectively, reducing vibration by up to 70%. Our products are much more reliable than typical clamping methods, which can cause wear, fatigue, failures and further production downtime; often causing more harm than support.

70%

reduction in vibration

Technology and process equipment

Our proprietary technology and equipment provides reliable support to process plants and industrial facilities across the asset life cycle. We use our design and operational knowhow to ensure that the solutions we provide are unbiased, robust and safe.

Conventional power

Wood provides high value services and state-of-the-art equipment and technology for power and co-generation plants, district heating plants, waste-to-energy plants and industrial facilities globally.

We have an established history of providing new build, after market service and decommissioning solutions to thermal power plants fuelled by coal, petcoke, biomass, solid waste, gas and oils. We differentiate ourselves with a world-class level of safety, technical expertise, proven execution of large-scale projects and strong multi-decade customer relationships.

Cutting-edge technologies

- Carbon capture and storage
- Pulverised coal (PC)
- · Condensers and feedwater heaters
- · Fabric filters or bag houses
- Heat recovery steam generators (HRSG)
- Low NOx combustion and SCR systems
- Simple and combined gas turbine (GTCC) plants
- Spray dryer absorber (SDA) and CFB scrubbers
- Utility oil and gas thermal plants
- Wet and dry electrostatic precipitators (ESP)
- · Wet FGD scrubbers

High-value services

- · Ash management and storage
- Boiler and AQCS equipment supply, service and upgrade
- · Engineering and PM
- Environmental assessment and permitting
- · EPC and general contracting
- · Feasibility studies, project planning
- Plant construction and commissioning
- · Plant operation and decommissioning

Consultancy support

Aside from our own leading refining technologies, we have extensive expertise in selecting and applying a wide range of third party processes and technologies, designing open art units based on our own experience. We have strong, longstanding relationships with all major process licensors which ensures we use the most appropriate licensed process units for your project.

Our expertise includes:

- Crude and vacuum distillation
- Fluid catalytic cracking (FCC)
- Isomerisation/reforming/alkylation
- Hydrotreating
- Hydrocracking
- Residue hydroprocessing/upgrading
- · Deep cut vacuum distillation
- Gasification
- Aromatics
- Sulphur recovery
- Waste treatment
- Utilities and offsites

Licenced technology

Wood provides its own proprietary, licensed technologies with extensive knowledge and experience in refining processes such as:

- Delayed coking
- · Solvent deasphalting
- Visbreaking
- Hydrogen
- Sulphur recovery
- Visbreaking
- · Thermal waste treatment
- · Flue gas scrubbers

We have designed and engineered more delayed coking units worldwide than any other technology provider or engineering contractor. Our SYDECSM (selective yield delayed coking) technology combined with our robust technical components and an 80 year history in delayed coking our position as a market leader in this area.





Training

Competent people are an essential linchpin in any successful organisation. At Wood we aspire to have the best people trained to design, commission, operate and maintain our customers' equipment; this is especially important as technology and systems continue to change and update rapidly.

Our diverse training services equip our employees and our customers' people with the right blend of technical knowledge and practical, hands-on experience to make smarter business decisions. Our goal is to help customers mitigate risks and maximise returns while training a confident and safe workforce.

We offer a wide range of training and development services, from individual awareness courses to full-service training and e-learning solutions.

Full-service training and development solutions

We design, develop and deliver site-specific operations and maintenance training programmes, delivered by dedicated teams of professionals that include project managers, training specialists, engineers, technical writers, technical illustrators, editors, publishers and software developers. We draw upon our global network of skilled people to support flexible, scalable and site-specific operations and maintenance training to support our customer requirements.

Our core deliverables include:

Induction

- · Gap analysis
- · Safety and awareness training
- Project / asset overviews
- · Training plans

Knowledge

- 3D animation overviews
- · Asset-specific e-learning
- · Knowledge assessments
- · Generic simulators

Operational development

- Operations and maintenance manuals
- · Standard operating procedures
- Classroom curriculums and training
- Virtual and augmented reality simulations and scenario training
- On-the-job training
- Skills assessments and development plans

Competency management

- · Coaching and mentoring
- Performance assessments
- · Career progression training
- Online learning and competency management using Wood's OperatorSuite LMS

Specialist training

We provide safety and emergency response training, with dedicated services throughout Australia, New Zealand, Indonesia, Malaysia and Papua New Guinea, as well as having a strong focus on supporting workforce nationalisation globally.

We also deliver a variety of training to support to the mining industry and its regulatory authorities, ranging from assessment strategies to operational issues and safety programmes. Within the clean energy sector we support our customers by providing technical consulting for new builds, decommissioning and clean-up with on-site training at our test facilities.

For investors and third parties we can provide an overview of industry regulatory requirements using different training scenarios.

Wood provides on-site training at our test rigs for the deployment of asset modifications in nuclear reactors. We also provide training for vendors and investors seeking to understand the regulatory requirements and landscapes to deploy nuclear new builds.

Professional services

Wood provides value-adding project services for our customers through the delivery of innovative recruitment solutions and industry leading commercial consulting and systems.

By tapping in to a live and extensive pool of global experience, we provide you with competent people with a proven focus on delivery excellence.

Contractor management and payroll

Well managed, payroll services can provide businesses with greater flexibility, increased capability and reduced overhead and burden costs. We onboard, screen, payroll and administer an extensive workforce across the UK, US, Australia and South Africa, with the ability to transition this capability in other locations to meet the demands of our customers.

Recruitment

Even with the best forward planning, people and projects can still experience unexpected circumstances. Our on-demand recruitment team will source the people you need, when you need them, without any upfront costs.

- Project services positions, including estimating, cost engineering / quantity surveying, contracts engineers and project controls
- Technical, engineering, operational and project management personnel

Further services include: talenton-demand, contingent workforce solutions, contractor care programmes, health and safety training, account management, permanent recruitment solutions, onsite recruitment services and recruitment outsourcing process.

Project services

We have an established track record in the delivery of project services comprising estimating, cost / quantity surveying, contract management, project controls and risk management. These services are provided across all of our locations on either a consulting, managed service or resource basis. Our consulting and managed services often involve the use of one or more of the following proprietary software:

- RHiComs industry leading unit rate contracting system
- RHiDems decommissioning estimating scenario tool
- PEMS- project execution management system

TengizChevroil

We are currently providing expert teams to support estimating, validation and quantity surveying for the TengizChevroil wellhead pressure management project the unit rate metrics for project estimates and bidder pricing levels. Our RHiComs contracting system ensures early engagement of bidders and our automated measurement system is providing clarity on the measurement and valuation of installed avantities.





Wood is a global leader delivering technical, engineering and project services across the entire asset life cycle. We operate in more than 60 countries, employing about 60,000 people. We provide performance-driven solutions from development to decommissioning for a broad range of industries including all energy sectors, process and refining, power and utilities, mining and manufacturing.

For further information please go to:









