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THE KBC CO-PILOT PROGRAM®

UNIT PERFORMANCE CO-PILOT: A SECOND PAIR OF EXPERT EYES TO ASSURE YOUR FACILITY ACHIEVES ITS FULL POTENTIAL

The KBC Co-Pilot Program is a unique package of cloud-based services to ensure that our clients achieve the expected performance from their assets. Co-Pilot brings together KBC's world-leading Petro-SIM® simulation technology, with the experience of our global expert team, using the cloud to focus on maximizing the potential from your facility.

Just as the co-pilot of an aircraft is there to assist the pilot with additional knowledge and to step in and help at times of intense activity, the KBC Co-Pilot is there to remotely support your facility with our expertise, insight and technology, supplementing the client's own capabilities and resources. Using the latest secure cloud-based technologies, the KBC Co-Pilot assures that your facility will always achieve its full potential.

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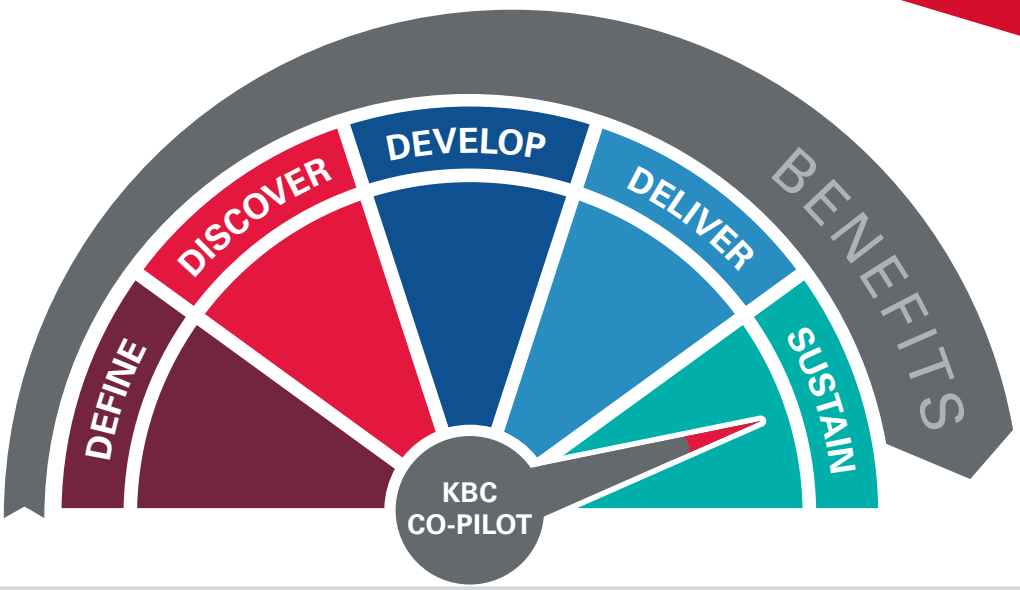
ALL of the top 10 oil and gas companies in North America and Europe use our IIoT solutions.

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UNIT PERFORMANCE ASSURANCE
Datasheet



Achieving full potential requires constant expert attention

In the current operating environment it's become increasingly difficult to maximize the potential of process units:

- Market volatility requires more flexible and agile operations
- Decision making relies on accurate and timely information plus exact models of the facility
- Loss of expertise as the ageing workforce approaches retirement makes it harder to respond to pressing issues
- The challenge of recruiting a new generation with different aspirations means that turnover is increasing and experience is lacking.

All of this contributes to increased difficulty in achieving plans or targets, and maintaining profitability and competitiveness.

The KBC Co-Pilot is here to help. KBC's experts come from the industry and have decades of practical experience. KBC's simulation technology is the best in the world for modeling complex process operations. And KBC's Industrial Internet of Things (IIoT) solutions are proven over 20 years to securely bridge the time and distance from your facility to our experts and technology.

Digital twin of your facility: Models always up to date; Experts always available

Co-Pilot creates a live digital twin of your process facility in the Cloud, using KBCs digital twin and simulation technology. This live digital twin is then available through the Co-Pilot dashboard and portal for KBC experts and the clients' key stakeholders. This allows facility management and engineering to clearly see and understand performance and, in collaboration with KBC experts anywhere in the world, to identify any opportunities for further improvement.

Once changes are agreed and acted upon, Co-Pilot will track economic improvement against a base case established at the Co-Pilot kick-off.

A structured approach

The KBC Co-Pilot Program is ideally suited to the following situations:-

- Facility management is not confident that their operating plan is always realistic and achievable
- An inexperienced workforce means the facility often misses plan
- Engineers do not always have the tools and knowledge to maximize profit or reduce risk
- Operators do not always automatically know when they are deviating from plan

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What's included in a Co-Pilot engagement?

- Kick-off meeting with key stakeholders to understand the facility operating philosophy and base-line operation
- Mirroring of process, quality, economic and planning data to KBC's private cloud
- Set-up of the 'Co-Pilot.com' web portal
- Conduct workshops to fit Co-Pilot into your work processes and empower your people to utilize the service
- Automated rigorous Petro-SIM model simulations in the cloud to validate input data, quantify its quality and continuously rate unit performance.
- Daily, weekly and / or monthly analysis, insight, recommendations, reporting and stewardship by KBC experts

Significant economic returns

The value created and the risk mitigated from Co-Pilot will result in significant economic returns of at least ten times that of the investment. This is achieved through:-

- Fewer facility slowdowns through closer performance monitoring
- Increasing the asset's gross revenue by identifying opportunities to increase throughput
- Boosting margin by increasing production of higher value products and / or minimizing the quality 'giveaway'
- Knowledge transfer from KBC experts to the client engineers
- Minimizing operating expenses by energy saving and reduced maintenance costs.

Choose the solution to meet your needs

Co-Pilot is a modular program of services, which allows you to select the most appropriate solution for your needs. Four broad levels of service are offered:-



Model Performance Assurance

Ensure input data is correct, model is calibrated and outputs are sensible. Interpretation and assessment by the client.

Model Performance Assurance underpins all of the other optional service levels.



Plan Assurance

Assess performance vs business goals and track profits delivered. Identify and elaborate strategy changes and improvement projects.



Unit Health Assurance

Assess performance vs plan and evaluate unit plan accuracy and lost opportunity – issues and trends requiring engineer investigation or maintenance planning.



Operational Performance Assurance

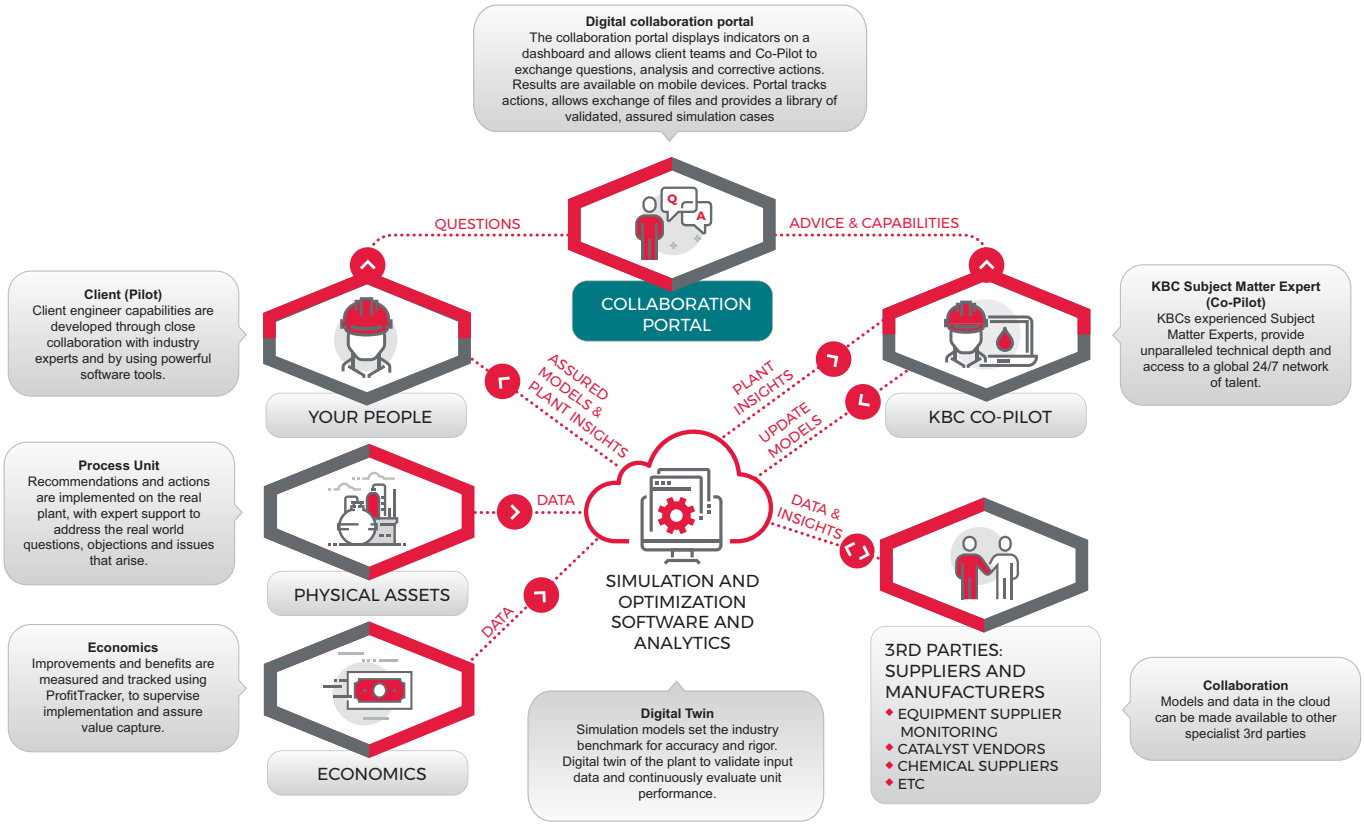
Assess operational performance vs plan and constraints – short term actionable recommendations.

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How Co-Pilot works



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KBC, a wholly-owned subsidiary of Yokogawa Electric Corporation, is all about excellence in the Energy and Chemical Industry.

We make excellence real for our customers through the actions of our people fused with our technology and best practices, powered by the cloud. Our customers achieve operating performance that surpasses ordinary standards, now and into the future.