



FACT SHEET

PREDICTIVITY PRODUCTS FACT SHEET

14 New Predictivity Solutions

Asset Optimization Products: Delivering outcomes for customers, including lower inventory costs, lower maintenance costs, lower asset capex costs, and minimized unplanned downtime.

- **The Drilling iBox System (Oil & Gas)** is a hardware/software solution that allows operators to turn existing data into useful information, such as reports and status updates for event sequence, cycle counts and both condition-based and predictive maintenance. The Drilling iBox System connects to the existing datalogger and provides diagnostic and prognostic condition monitoring reports using GE's Predix platform. The technology can be retrofitted to GE Oil & Gas' SeaONYX blowout preventer (BOP) control systems. More data means more control, and that means less unplanned downtime.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Increased revenue, Lower maintenance costs, Lower opex cost

- **ReliabilityMax (Oil & Gas)** is designed to help Oil & Gas companies in the pursuit of minimized unplanned downtime for heavy-duty and aero-derivative gas turbines. The system, using a combination of advanced sensors, predictive analytics on real-time and historical data and expertise from diagnostics engineers, will be available in December 2013. An improvement in gas turbine reliability of just 0.1 percent could mean more than \$2 million in additional production for a mid-scale liquefied natural gas plant. Launch customer in place.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Increased revenue, Lower inventory costs, Lower maintenance costs

- **Field360 (Oil & Gas)** powers new levels of oil field performance through data-driven insights that enable better decision-making. Using advanced sensors and big data analytics, the solution helps translate data from reliable electrical submersible pumps (ESPs) into information that can help optimize production by anticipating failure to increase mean time between failures and recommend preventative asset maintenance. The new system is using real-time pump analytics connected with remote collaboration which can help to improve and optimize well production by extending the life of Artificial Lift assets and recommend proactive maintenance. The technology solution will be available in November 2013. Launch customer in place.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Increased revenue, Lower maintenance costs, Lower inventory costs, Lower opex costs

- **System 1 Evolution (Oil & Gas)** allows energy companies to monitor oil and gas field machinery, plants and enterprise fleets from a single secure access point. It provides insights in equipment wear and tear, and improves maintenance planning and management. The system will be available November 2013. Launch customer in place.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Increased revenue, Lower maintenance costs, Lower opex costs

- **LifeMax* Advantage (Power & Water)** is a combination of hardware and software engineered to help customers rejuvenate power-generating gas turbines and recapture lost performance. The platform can increase energy output by as much as 10 percent, save \$600 million in fuel, and boost revenue by \$1 billion per year across a global B/E class power plant fleet by lowering maintenance costs and improving efficiency. Dubai is the launch customer for this solution.

CUSTOMER OUTCOMES: Increased revenue, Lower maintenance costs, Lower fuel cost, Lower opex costs

- **PowerUp (Power & Water)**, part of GE's brilliant wind platform, is a combination of hardware and software upgrades that boost wind turbine energy output by as much as five percent. This could translate to up to 20 percent more profit per turbine for wind farm operators.

CUSTOMER OUTCOMES: Increased revenue

- **RailConnect 360 Monitoring and Diagnostics (M&D) (Transportation)** provides comprehensive support to rail mechanical and transportation departments on locomotive health, maintenance and repairs. M&D collects and analyzes performance data during locomotive operations, automating diagnostics and root cause analysis to enable optimal and proactive repairs and maximize reliability and availability. In addition to providing locomotive status and performance information, our M&D solutions enable advanced planning of resources and materials and informed decision making for consist building, running and routing locomotives. Vale is the launch customer for this solution.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Lower maintenance costs, Increased revenue

Operations Optimization Products: Delivering outcomes that matter for customers, including **lower fuel cost**, **lower opex cost**, and **increase revenue**.

- **Non-destructive Testing (NDT) Remote Collaboration (Oil & Gas)** connects field inspectors with experts anywhere in the world through real-time video links and collaboration tools in a highly secure way. The information is fully accessible through existing browser technologies. For example, when critical oil and gas assets (risers, turbines, BOPs) are being inspected on a platform in the Gulf of Mexico, an expert in Houston can view the inspection in real time and help with decisions. GE's Remote Collaboration solution will be piloted with aviation customers in November 2013.

CUSTOMER OUTCOMES: Increased revenue, Lower maintenance costs, Lower fuel cost, Lower opex costs

- **HoF SimSuite (Healthcare)** is a cloud-based software application that helps healthcare providers make better strategic decisions by quickly testing future-state alternatives to understand the cost, quality and patient experience trade-offs of each. Clinical leaders and administrators can now do this simply and easily and without PhD support. They can quickly test a range of operational and pathway scenarios to understand the impact on patients, staff, capacity and cost leading to better decisions. Clients have used it to design more efficient new hospitals, redesign care delivery models and redesign specific service lines and departments. St. Luke's Medical Center in Houston is the launch customer for this solution.

CUSTOMER OUTCOMES: Increased revenue; Lower asset capex costs

- **GE's Cloud Imaging* (Healthcare)** solution is a secure and reliable platform that helps care providers and patients coordinate care more efficiently. It delivers intelligent imaging applications for easy image exchange, advanced analytics, and results communication. To optimize entire health systems, administrators receive continuous visibility into operational, clinical and financial performance. Independent studies support the potential of image exchange technology to significantly boost clinical productivity. Kadlec Health System in Washington State is the pilot site for this solution.

CUSTOMER OUTCOMES: Lower asset capex costs

- **Grid IQ™ Insight (Energy Management)** provides utilities with advanced analytic capabilities to meet their business needs and create a stronger connection to the machines that power the grid. It applies proven analytics to make sense of big data collected from intelligent machines to better predict, manage, model and forecast potential problems that a utility's electrical grid may face. The software strategically monitors influential data—such as electrical usage, grid performance and weather history—creating an interconnected “ecosystem” of people and machines to better equip utilities with the information and tools needed to optimize their electrical distribution systems. Utilities can then apply the information and knowledge gained through Grid IQ™ Insight's advanced analytics and visualization to ensure a more efficient and reliable energy supply to their end users. Customers Indianapolis Power & Light and American Electric Power are participating in GE's Grid IQ Insight Innovative Utility Program (IUP).

CUSTOMER OUTCOMES: Lower opex cost, Increased revenue

- **Proficy MaxxMine (Energy Management)** software uses patented predictive analytics to accurately detect and diagnose equipment problems before they happen. It could help customers improve their throughput of product through the grinding circuit from one to 10 percent and increase asset availability from one to 15 percent. Customers report ROI in six to 12 months and more than 95 percent renew their subscriptions every year. Lonmin, the world's third-largest platinum producer, is the launch customer.

CUSTOMER OUTCOMES: Lower maintenance costs, Lower asset capex costs, Minimized unplanned downtime, Lower fuel cost

- **Flight Efficiency Services (Aviation)** collects real-time data generated by an aircraft and applies proprietary techniques that provide business intelligence and actionable insight to significantly improve an airline's overall efficiency. FES uses smart software tools and analytics algorithms to help airlines to achieve higher levels of efficiency in four areas: fuel management, flight analytics, navigation services and fleet synchronization. Launch customers include GOL Airlines, EVA Airways and Garuda Indonesia Airlines.

CUSTOMER OUTCOMES: Lower fuel cost, Lower opex costs, Increased revenue

- **ShipperConnect (Transportation)** is a cloud-based software suite that allows rail shippers, car owners, logistic providers and terminal operators to automate operations, manage inventory, and control transportation costs. The system includes business intelligence reporting tools that help customers make better decisions and respond faster to dynamic market conditions. Launch customer Fairmount Minerals, one of the largest producers of industrial sand in North America, is implementing ShipperConnect solutions at 49 locations to improve railcar utilization and meet their customer commitment to deliver a continuous supply of sand to the shale basins.

CUSTOMER OUTCOMES: Lower inventory costs, Increased revenue

10 Predictivity Solutions Launched Over Past Year

Asset Optimization Products:

- **Flex Efficiency Advantage (Power & Water)** is real-time monitoring on power generation equipment. Power plants can react to real-time changes in power demands, grid conditions and fuel supply, dialing up or down the amount of energy needed and where it comes from. Improved fuel performance and extended maintenance intervals help utilities to increase energy output as well as deliver better and more reliable customer service. PSEG is using our FlexEfficiency Advantage solutions to increase output by 6 percent, reduce fuel burn by more than 1.5 percent, and increase operational flexibility for its gas turbine fleet.

CUSTOMER OUTCOMES: Lower fuel costs, Lower maintenance costs, Increased revenue

- **Subsea Integrity Management (Oil & Gas)** technology is an underwater remote monitoring system that increases production reliability using data from sensors measuring vibration, temperature, and leak detection for well heads, manifolds and production stations. Using this technology, Shell has experienced benefits of a system that is up to 10,000 more accurate than the traditional alternatives, delivering significant operational benefits including the ability to pinpoint the location of any issues and make the necessary interventions.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Lower opex costs

- **DoseWatch** (Healthcare) provides visibility into patient radiation dosing so that clinicians can track and potentially lower radiation patients receive from imaging procedures, while maintaining the high image quality necessary to diagnose and treat diseases like cancer. The software helps facilitate patient safety and compliance with regulations. DoseWatch has helped St. John's Hospital (Bruges, Belgium) achieve a 30-40 percent reduction in CT dose in comparison with the dose used on similar exams before DoseWatch was installed.

CUSTOMER OUTCOMES: Lower opex costs

Operations Optimization Products:

- **Hospital Operations Management (HOM) (Healthcare)** integrates bed assignment, departmental workflow, patient flow, transport, and equipment management to reduce wait times and enable more efficient quality care to be delivered throughout a patient's stay, from admissions to discharge. With HOM, powered by AgileTrac™ software, St. Luke's Medical Center has seen a 51 minute reduction in bed turnaround time and reduced patient wait times.

CUSTOMER OUTCOMES: Lower inventory costs, Lower maintenance costs, Lower asset capex costs, Minimized unplanned downtime, Lower opex costs, Increased revenue

- **Fuel Management (Aviation)** helps airlines find efficiencies that can reduce up to 2 percent of their annual fuel bill. GE has been working with Brazil's GOL Airlines since early 2010: As "partners in fuel conservation" the GOL / GE team established a culture of operational efficiency founded on continuous improvement best practices that has reduced fuel consumption significantly. Similarly, GE has helped Alitalia achieve a total of Euro 34M (\$46M) in fuel savings.

CUSTOMER OUTCOMES: Lower fuel costs, Lower opex costs, Increased revenue

- **Real-Time Operational Intelligence (RtOI) software (Energy Management)** gives manufacturers a plant-wide perspective on operations, enabling them to proactively detect and predict factors that could have a harmful impact on quality – plant conditions, equipment risk and process breaches. This solution has helped Gallo Glass significantly reduce costs and improve product quality, delivering \$5 million annual savings through improved quality, 5 percent increased production, 25 percent reduced defects and 25 percent reduced plant downtime.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Lower opex costs

Network Optimization Products:

- **Intelligent Operations services (Aviation)**, developed by the Taleris joint venture between GE & Accenture, use proprietary algorithms to monitor data collected from aircraft equipment and airline systems to predict, prevent and recover from operational disruptions. If an average domestic airline (14 million passengers, 85,000 flights per year) implemented Intelligent Operations services, 1,000 delayed departures and flight cancellations could be avoided each year, helping more than 165,000 passengers get to their destinations on time. Taleris signed an agreement with Etihad Airways in June to launch the ground-breaking new technology to help predict maintenance faults and recommend preventive action.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Lower fuel costs, Lower opex costs, Increased revenue

- **Movement Planner System, part of GE's Rail Network Optimization solution (Transportation)**, uses analytics to give real-time access to critical information so railroads can move more freight faster and more intelligently. Currently being implemented at Norfolk Southern, this solution is helping to create network efficiencies and reduce operating costs. Based on a joint study conducted earlier this year on key Georgia Division corridors, the company has seen improvements that include a 10 percent increase in network velocity, a 50 percent reduction in expired crews, and significant improvements in on-time performance.

CUSTOMER OUTCOMES: Lower opex costs; Increased revenue

- **Grid IQ™ Solutions as a Service (SaaS) (Energy Management)** allows utilities to monitor, manage and control their grid more intelligently. Using a cloud computing services model, these capabilities can be deployed in 50 percent less time than traditional turnkey project models and 10 percent of the estimated implementation cost. The City of Leesburg received the full functionality of an intelligent grid in a fourth of the time using SaaS and at 10 percent of the full capital cost, reaping benefits that will dramatically improve operations and lower costs.

CUSTOMER OUTCOMES: Minimized unplanned downtime, Lower opex costs, Increased revenue

- **Caradigm (Healthcare)** is a 50–50 joint venture between Microsoft and GE Healthcare focused on enabling health systems and payers to drive continuous improvements in care. Caradigm software helps healthcare professionals across care settings to use data to gain critical insights, collaborate with each other and with patients, and to develop and implement innovative care solutions. Caradigm products—and applications built by partners to extend these products—give clinicians, administrators and finance teams timely access to key information, helping them to take steps to solve some of healthcare's biggest challenges, including chronic disease management, preventable hospital readmissions and hospital-acquired conditions, and to advance integrated, accountable care.

CUSTOMER OUTCOMES: Lower asset capex costs, Increased revenue

*Descriptions of future functionality reflect current product direction, are for informational purposes only and do not constitute a commitment to provide specific functionality. Timing and availability are subject to change and applicable regulatory approvals.