It is becoming more difficult for management to gain effective oversight of processes and controls - especially in finance and accounting - because they are increasingly complex.

Pressure on costs and growing regulatory requirements add further strain. We help clients to improve their controls and process oversight by applying highly sophisticated data analysis and control automation techniques. Clients gain greater comfort over the efficiency and effectiveness of individual controls, and over the control portfolio in its entirety. They can reduce their cost of control and ensure sustainable, continuous monitoring.

Companies have developed their internal monitoring activities to reduce management liability, strengthen process oversight and meet increasing governance requirements. This is particularly the case in the realm of finance and accounting. However, these activities are reaching the limits of their efficiency and effectiveness. In business areas such as customer-relationship management, manufacturing and quality control, forward-looking companies have long used advanced data analysis and control techniques to improve key processes and generate valuable management insights about control effectiveness and efficiency. There is great - yet often untapped - potential to apply these methods to finance and accounting activities and related processes.
Common signs that data analytics and control automation could deliver increased assurance in finance- and accounting-related processes include:

- A full-scope manual control of all critical transactions on a company-wide basis is, realistically, not possible
- Controls to be tested are chosen at random, limiting process assurance
- Data and information for oversight tasks is often provided manually
- Data is fragmented across various IT systems, hampering efficient control monitoring
- Internal monitoring functions (e.g., internal audit) cannot cover all relevant processes
- Uncertainty about the financial statement audit and its control-testing results

We can apply advanced analytics and control automation techniques to your finance-related processes, using data from across your IT systems and transactions to monitor the key risks of critical activities.

This will enable your process, control owners and management to continuously monitor your critical controls and transactions. As a result, your process oversight and your overall control environment can be streamlined, reducing the cost of monitoring and realizing significant efficiency and effectiveness enhancements.
Implementing better controls and streamlining process oversight is a four-stage process

The four stages of our solution to help you generate value from your process monitoring are:

1. **Control analysis in critical processes**
   We will conduct a process and risk analysis to assess the current state and to define a future-state vision for your monitoring approach and control methods. We will analyze individual controls to determine their automation potential and review the whole control portfolio to identify where data analytics can provide improvements.

2. **Large-volume data processes**
   We will select and analyze underlying data from your IT systems. Data is extracted, transformed and loaded to be incorporated into the next step of advanced control procedures.

3. **Advanced control methods applied**
   We will apply innovative data analytics to simplify financial oversight analysis (see box) and use advanced automation techniques to replace manual procedures. Both improvements lead to higher assurance via increased transaction coverage and real-time issue identification.

4. **Implementing continuous reporting**
   We will implement an IT-based workflow to track findings and enable process owners to constantly monitor control performance through a real-time reporting dashboard.
We can use advanced mathematical analysis techniques – e.g. stochastic modeling – to create an “expectations space” for your financial and accounting data. For example, we can combine multiple financial statement positions and connect related journal entries.

This expectation space gives us a benchmark that we can compare against your actual data. We can then perform a highly sophisticated analysis of your business data, identifying potential errors and problems that would otherwise likely go unnoticed.

**Expectation space calculator**

- Generates expected values in multiple dimensions (e.g. P&L items, product, value, time)
- Calculates the expectation corridor over time

**Current data calculator**

- Collects actual data in the defined dimensions and calculates respective values
- Measures the performance over time

**Data collector**

**Control portfolio analyzer**

- Compares the time-expectation corridor with the time-performance graph via pattern matching and stochastic methods
How we can help you derive additional value from your controls

Our service

- Establishes analytical methods (e.g. data analytics, stochastic and other statistical methods) to streamline the control portfolio
- Designs, develops and implements automated controls to reach efficiency gains and to enhance assurance simultaneously
- Analyzes critical processes and risks to streamline control performance and oversight
- Sets up real-time reporting dashboards to provide constant process monitoring capabilities for process owners and management
- Provides implementation support through a number of flexible and reliable in-house developed tools
- Provides support in applying existing or commercial software for the advanced process assurance methodology

Your benefit

- Increased assurance for financial and accounting related processes
- Reliable, forward-looking process monitoring and efficient tracking of strategic goals
- Strategic success factors aligned with process oversight
- Cost reduction of control performance and increased coverage of critical transactions
- Streamlined control portfolio and optimized cost-benefit ratio for control procedures
- Sustainable and systematic monitoring of control-effectiveness
- Efficiency and quality improvements of internal audit work
- Enhanced quality of process monitoring information
- Reliable and efficient reporting of control-effectiveness for oversight by management and board
- Greater comfort over individual controls and the entire control portfolio

“Organizations neglecting advanced control methods are wasting resources. Leading companies reach efficiency improvements by constantly considering advanced process assurance techniques.”
Advanced control methods and data analytics can significantly improve an organization’s control environment by shifting the focus from manual isolated control monitoring towards a more holistic and comprehensive approach.

We can help you to make monitoring of controls and their effectiveness an efficient activity for all process stakeholders. To secure long-lasting project success, we apply our global project management methodology (IDDDS framework), including change management techniques.

EY’s Advanced Process Assurance and Data Analytics team has carried out a range of successful projects, working with multinational organizations as well as small and medium-sized companies.

We have supported the improvement of our clients’ process-monitoring capabilities, control automation and streamlining, control portfolio optimization and management oversight.

Our teams have extensive experience in the following areas:

- Finance, accounting and underlying processes
- Evaluation of risks and processes
- Analysis, implementation and redesign of control environments
- Establishment and optimization of rule- and data-based control automation
- Data extraction, structuring and processing
- Sophisticated data analytic methods
- Application of stochastic analytics
- Design and implementation of reporting dashboards
- Setup and implementation of IT-based workflows
- ERP software and software-selection processes
If you discover one or more of the following characteristics in your processes, an advanced process assurance and data analytics component might boost efficiency and effectiveness of your monitoring tasks:

- High transaction frequency in critical processes
- Time gaps between transaction and control
- High amount of manual control activities
- Unsystematic identification of process issues and transaction failures
- Increased effort needed for process oversight or to provide information to management
- High degree of uncertainty about the year-end findings
- Doubts about the efficiency of the control environment