

WHITEPAPER



DESIGNED FOR  
QUALITY ASSURANCE

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## Executive Summary

Quality can be defined as “fitness for use as defined by the customer”. A quality product or service contributes to customer satisfaction; poor quality means dissatisfied customers.

In today’s competitive marketplace, the process of controlling internal and external quality processes has become increasingly important and more complex for all companies. From a company’s operational point of view, a high level of internal and supplier quality is of the utmost importance. Quality management is needed for continuous improvements, defect prevention, reduction of variations, and reduction of waste. Compliance with ISO/TS 16949 is a requirement for most Automotive suppliers. Moreover, most companies are required to adopt the “Six Sigma” approach to proactive quality management.

In IFS Applications, we have integrated tools that make it easier and less costly to achieve and maintain TS compliance. You can value stream mapping with IFS Business Modeler™, control all types of documents in IFS Document Management™, and manage your processes in IFS Business Performance™. And IFS Human Resources™ helps you with successful strategic human resource planning. IFS’ components for engineering minimize the work of specifying and configuring design elements and products. Quality is ensured by streamlining the administration of all related documentation, including revisions.

IFS Quality Management™ provides the ability to define control plans, test and inspection instructions and standards for parts, suppliers, and manufacturing processes. The most common SPC charts for variables and attributes are supported, and capability indices can be calculated for any process. IFS’ maintenance components make up a complete maintenance system that provides the proactivity, openness and agility

to develop and adapt to keep pace with the rapidly changing demands of the world around you.

With IFS Event Management™, you can let the application become an active part of the business processes by immediately notifying employees, customers, and suppliers as events occur. This paper illustrates how IFS Applications supports ISO/TS16949.

## What is ISO/TS16949?

Quality systems have been an important aspect of the automotive industry for many years. Early, when suppliers implemented quality management systems, vehicle manufacturers realized that the ISO9000 series was not sufficient to meet their specific automotive needs.

In the U.S., Ford, General Motors and Chrysler developed QS-9000, which described their quality system requirements for their suppliers. QS-9000 is supported by a series of support manuals that focus on key automotive tools: Measurement System Analysis (MSA), Failure Mode and Effects Analysis (FMEA), Advanced Product Quality Planning (APQP), and Statistical Process Control (SPC). In France, Germany and Italy similar quality system requirement documents were developed (EAQF, VDA6.1, AVSQ). As the goal for all vehicle manufacturers was the same, it was decided to develop a common, global standard—ISO/TS 16949—to support the quality requirements for the automotive industry.

ISO/TS 16949:2002 was released in March 2002. It is an automotive quality management technical specification that was jointly developed by the IATF members based on ISO 9001:2000, AVSQ, EAQF, QS-9000 and VDA6.1.

## ISO/TS 16949 and the process approach

Customer satisfaction and customer requirements are central goals of the ISO/TS 16949 standard. It promotes the process approach when developing, implementing and improving the effectiveness of a quality system to achieve these goals. Practitioners have to identify a large number of linked activities in order to enable the transformation of inputs and outputs that will be defined as a process. Figure 2: below describes a process-based quality management system. Customers play a significant role in defining requirements as inputs. Monitoring of customer satisfaction is also important.

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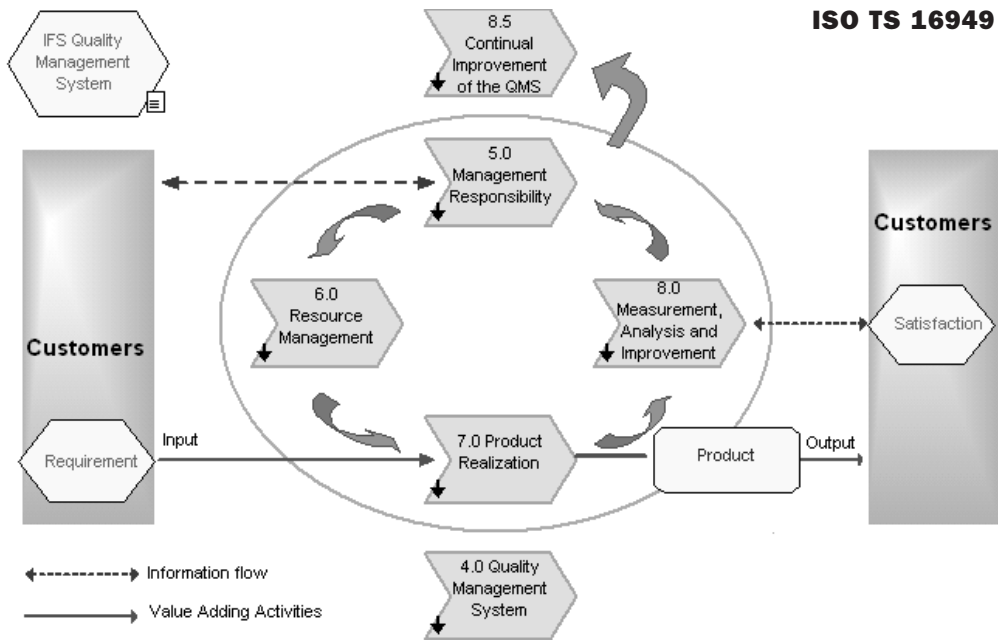


Figure 1: Model of a process-based quality management system

The “Plan-Do-Check-Act” (PDCA) methodology can be applied to all the processes.

**Plan:** establish the objectives and processes necessary to deliver results in accordance with customer requirements and the organization’s policies.

**Do:** implement the process

**Check:** monitor and measure processes and product against policies, objectives and requirements for the product, and report the results.

**Act:** take actions to continually improve process performance.

(Technical specification ISO/TS 16949, Second Edition 2002)

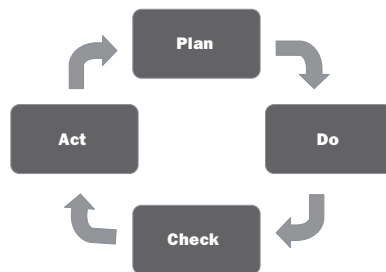


Figure 2: Plan-Do-Check-Act

(Adapted from Technical specification ISO/TS 16949, Second Edition 2002)

## How IFS Applications Supports ISO/TS 16949

Quality functionality is integrated throughout IFS Applications. This part describes some of the components that support you in your ISO/TS 16949 work.

### IFS Business Modeler

IFS Business Modeler is an integrated package of PC-based tools, methods, and graphical models that makes it easier to match your company's existing processes with best-practice processes. In doing so, you can easily pinpoint areas for improvement and design new, more efficient processes. It gives you the insights you need to operate more efficiently and profitably, with an increased focus on customer satisfaction. Then you can keep using IFS Business Modeler to continuously refine and communicate your company's processes. You can use IFS Business Modeler to attach documents from IFS Document Management to activities, which gives you a great opportunity to create a quality management and auditing system.

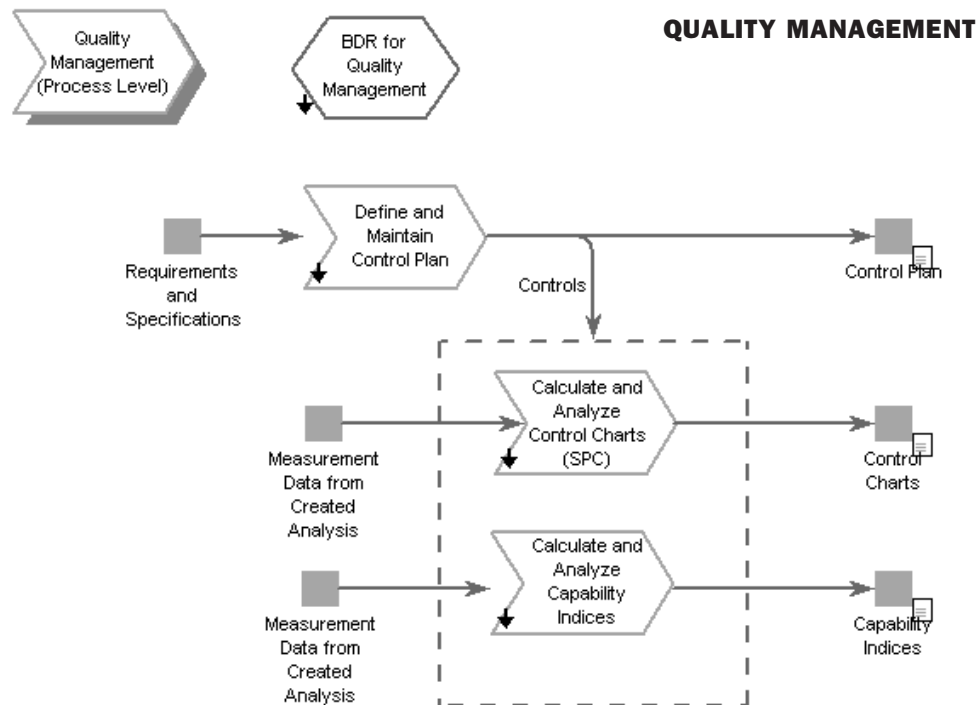


Figure 3: IFS Business Modeler

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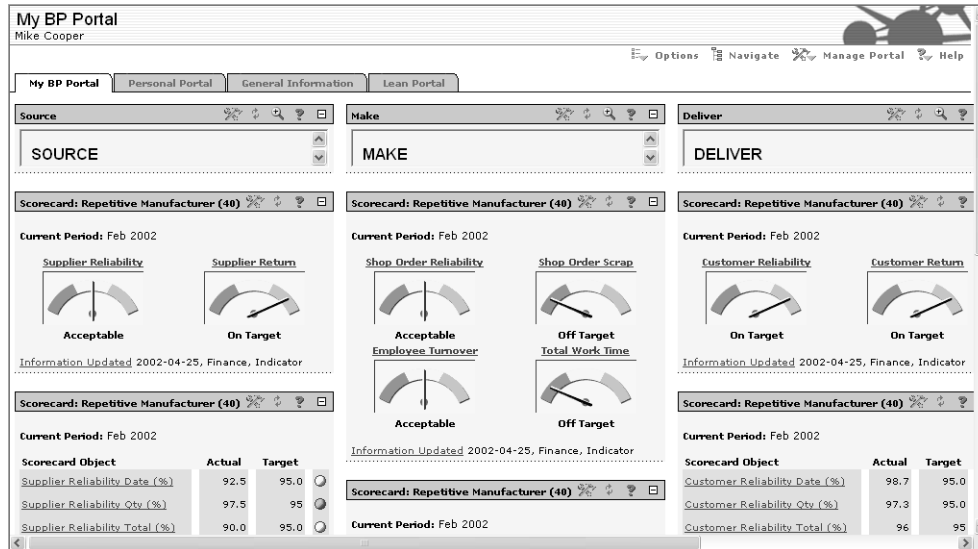


Figure 4: IFS Business Performance

## IFS Document Management

Managing documents is not an end in itself. It is an essential part of day-to-day operations, ensuring that the right information is available to the right people at the right time. IFS Document Management, our simple yet powerful approach to document management, gives you full control over your company's documentation. You can attach documents to any object within the application. For example you can attach drawings to your Control Plan. When you want to enter test results, the document reference (the drawing) is inherited to the entering of test results window. IFS Document Management ensures people have access to the information they need and, through document revision, check that it is the correct information.

## IFS Business Performance

IFS Business Performance™ supports the management control process, including business planning, business follow-up, and analysis of business critical information, by providing an integrated strategic performance management and control system. Offering reporting, analysis and scorecard capabilities, the component is available as a web solution that enhances communication of strategy and performance management in distributed settings. The IFS Scorecard enables you to apply a Balanced Scorecard framework, which helps you execute strategies by aligning strategic

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objectives and performance measures with your company's vision and strategy. You can, for example, measure and follow up supplier performance, internal performance and customer satisfaction, then check the measurements on a very high level and drill down to see the underlying details.

### **IFS Human Resources**

IFS' human resources components save time and money through rational and cost-effective human resource administration. The components provide fast and accurate analysis, securing the competence and development needs of a company and its employees. The human resources components are essential for successful strategic human resource planning.

### **IFS/PDM Configuration™**

IFS/PDM Configuration is a comprehensive product data management system that puts a host of product-related data at your fingertips. Whether used in conjunction with the development of a new product or modification of an existing design, IFS/PDM Configuration enables you to specify and configure parts, products, and facilities—plus create all associated documentation. In the process, you can manage costs with access to cost summaries or part registers to help you make informed decisions. IFS/PDM Configuration is the complete tool to follow a product or part through its entire lifecycle.

### **IFS/Engineering Change Management™**

IFS/Engineering Change Management makes engineering change processes easier. The component lets you receive, check, and approve change requests before converting them into change orders. You can also analyze change impact, which minimizes the risk of making unnecessary or incorrect changes, and can access a complete revision history. Single-entry of data and seamless integration with other components in IFS Applications, such as IFS/PDM Configuration and IFS Document Management, make this a powerful tool for product design.

### **IFS Quality Management**

IFS Quality Management enables you to organize and analyze your data systematically and comprehensively to meet ever-increasing quality demands. Total quality management (TQM) has become the rule. Proactive decision-making and failure prevention are the keys to effectively managing quality. IFS Quality Management

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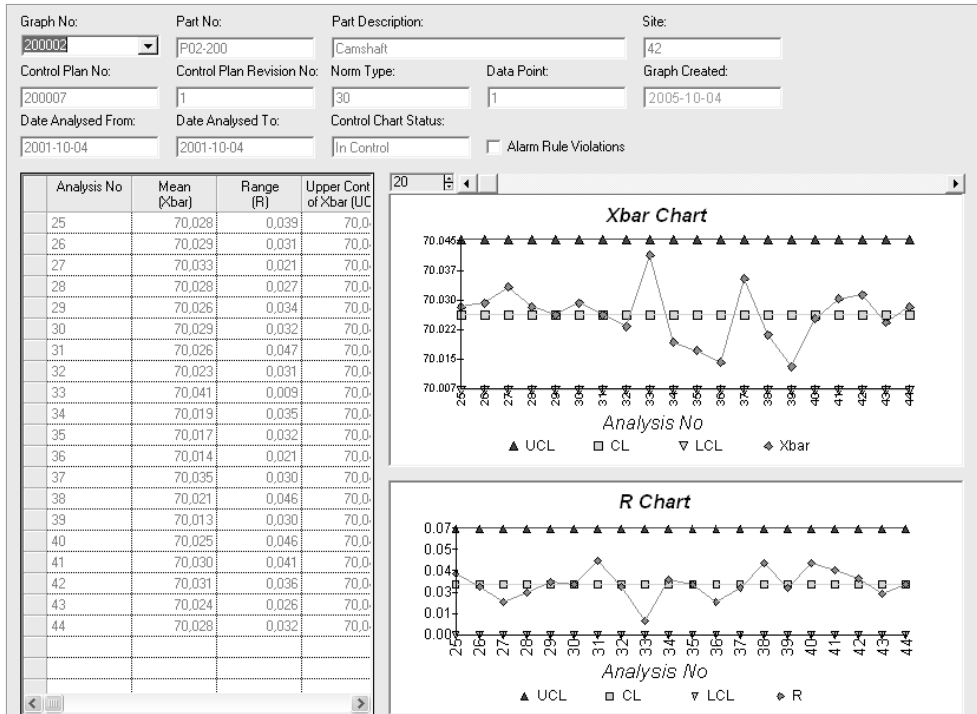


Figure 5: IFS Quality Management, SPC Chart

includes failure modes and effects analyses, control plans, SPC charts, and capability studies. As the component is fully integrated with IFS Applications™, it supports the entire production process, enabling you to control parts in manufacturing, distribution, and inventory locations.

You can set up an FMEA to identify potential failures and causes, and create a control plan to specify how to check each item and how often. When you have created a control plan, IFS Quality Management makes it easy to set up a test procedure and record test or inspection results. All entered results have total traceability because they are time-stamped. You can use IFS Quality Management not only for in-process control but also for historical tracking and various evaluative follow-up methods.

With IFS Quality Management, you can create, view, and analyze X bar and R, X-bar and S, X and MR, np, p, c, and u control charts. You can also do capability indices calculations. IFS Applications also includes material review board (MRB) functionality for handling the disposition of defective material.

### IFS/Preventive Maintenance™

IFS/Preventive Maintenance is used to set up schedules for regular preventive maintenance. The module organizes and prepares all types of tasks in the facility, regardless of whether they are controlled by the condition of the machine, events or a calendar schedule, or whether staff or contractors perform them. IFS/Preventive Maintenance also manages tests required by various authorities as well as general, recurring tasks.

### IFS/Work Order™

IFS/Work Order manages all tasks affecting the maintenance organization: fault reports, preparation, planning and final reporting. The graphical work order scheduling enables you to handle resources, skills and operations by using drag-and-drop functions. Traceability via information access layers provides complete follow-up and analysis management. The result is more efficient maintenance work, reducing both direct and indirect maintenance costs as well as loss of revenue caused by standstills. The work order information can be handled in different kinds of clients, such as PDAs, and Web portlets.

### IFS Event Management

With IFS Event Management, the application becomes an active part of the business processes by immediately notifying employees, customers, and suppliers as things happen. You can use events both to inform and to prompt action. For example, customers can receive notification if their order is delayed for any reason, and managers can be prompted when there are new supplier invoices to approve. You can also use the event server within the SPC support together with alarm rules. The system notifies you if, for example, you have an SPC chart that is out of control.

## Quality Integrated throughout the Entire Organization Maximizes Benefits

Quality is so much more than product quality. It includes management, processes, and employee training. It also covers communication throughout the company, ensuring that users have data and information readily available, and reducing the cost of administering a quality system. IFS Applications offers you integrated components that simplify your quality work and help guarantee quality throughout all aspects of your operations. It facilitates problem solving by using historical data/results and tracks progress via Business Performance Scorecards and Portals. With quality management tools such as Control Plans, FMEA, SPC, Business Modeler and document management fully integrated with your manufacturing, purchasing and inventory software, there is no need to register data twice. It is all in one system.

## About IFS and IFS Applications

IFS, the global enterprise applications company, provides solutions that enable organizations to respond quickly to market changes, allowing resources to be used in a more agile way to achieve better business performance and competitive advantage.

IFS was founded in 1983 and now has 2,600 employees worldwide. IFS has pioneered component-based enterprise resources planning (ERP) software with IFS Applications™, now in its seventh generation. IFS' component architecture provides solutions that are easier to implement, run, and upgrade. IFS Applications is available in 54 countries, in 20 languages.

IFS Applications provides extended ERP functionality, including supply chain management (SCM); enterprise asset management (EAM); maintenance, repair, and overhaul (MRO); product lifecycle management (PLM); customer relationship management (CRM); and corporate performance management (CPM) capabilities.

IFS has over 500,000 users across seven key vertical sectors: aerospace & defense, automotive, high-tech, industrial manufacturing, process industries, construction & facilities management, and utilities & telecom. IFS also provides a cross-industry solution for Retail & Wholesale Distribution.

More details can be found at [www.ifsworld.com](http://www.ifsworld.com). For further information e-mail [info@IFSWORLD.com](mailto:info@IFSWORLD.com)

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