Modern approaches to managing quality specifically in the automotive, aerospace, defence, medical and drug industries have undergone enormous change in recent years. Particularly with reference to Advanced Product Quality Planning (APQP), Production Part Approval Process (PPAP) and the associated Core Tools.

These approaches have achieved huge improvement in quality performance, one example being the demonstrably continued and continuous improvement in automotive reliability.

Below are detailed some definitions of these approaches and where to find further information (such as webinars and training schemes). The webinars (sponsored by the CQI) are a short (45 min) introductory video to each topic. The links should work, if not please email help@qmt.co.uk.

Title	Definition	Short introductory webinar	Training sources
Core Tools Programme	The Core Tools comprise a best practice methodology and a series of key tools and techniques for introducing new products and processes into production. The Core Tools are defined as the five supplemental techniques and methods used within a variety of industry sectors including automotive, aerospace, defence, medical and pharmaceutical. The Core Tools also support the requirements of quality management systems such as ISO 9001 and AS9100 Although the Core Tools can be utilised individually, they are most effective when applied in a coordinated way, within a defined process for new product introduction. The Core Tools Programme comprises the following key topics: • Advanced Product Quality Planning (APQP) • Failure Mode and Effects Analysis (FMEA) • Measurement Systems Analysis (MSA) • Statistical Process Control (SPC) • Production Part Approval Process (PPAP) Each Core Tool is defined in greater detail below…	Core Tools (Webinar) – QMT elearning (qmt-learning.co.uk)	Core Tools Programme [#036]
Advanced Product Quality Planning (APQP)	Advanced Product Quality Planning (APQP) is an established and recognised methodology for introducing new products and processes into production. APQP is a project management approach that continually reinforces identification and mitigation of risks, monitors status of tasks and deliverables, and escalates issues to management as necessary. The purpose of APQP is to assure that new products satisfy customer needs and wants. To accomplish this, necessary activities need to take place at the appropriate time within the product realisation process.	Core Tools (Webinar) – QMT elearning (qmt-learning.co.uk)	APQP – Advanced Product Quality Planning [#060]
Failure Mode and Effects Analysis (FMEA)	Failure Mode and Effects Analysis (FMEA) is an established technique used to identify and mitigate risks associated with designs, manufacturing and assembly processes. FMEA is applicable to a broad range of processes, including those which produce a raw material, an individual component, a sub-assembly, or a complete assembly. The purpose of FMEA is to avoid costly process problems and product failures.	Failure Mode Effects Analysis (Webinar) – QMT elearning (qmt-learning.co.uk)	Failure Mode & Effects Analysis (FMEA) [#057] Introduction to Risk Management – FD103

Title	Definition	Short introductory webinar	Training sources
Measurement Systems Analysis (MSA)	Measurement Systems Analysis (MSA) is used for the purpose of assessing the capability of inspection, measurement and test equipment systems for specific tasks. Measurement data are used in a variety of ways, often for decision-making in respect of product conformity, and monitoring of process performance. It is important that the measurement data is reliable, otherwise incorrect decisions could be made which could result, for example, in nonconforming products being shipped to a customer.	IATF 16949 Quality Standard (Webinar) – QMT elearning (qmt-learning.co.uk) Core Tools (Webinar) – QMT elearning (qmt-learning.co.uk)	Measurement Systems Analysis (MSA) [#053]
Statistical Process Control (SPC)	Statistical Process Control (SPC) is used for the purposes of process qualification, problem solving, process monitoring, and continual improvement. SPC is applicable to a wide range of process situations, where data is used to understand and manage the performance of manufacturing and non-manufacturing processes. Keys tools and techniques utilised for SPC include: Control charts: To achieve a process performance which is in 'statistical control' (stable), and hence predictable. Process capability: Process studies to achieve a process performance which conforms to the specification.	Statistical Process Control (Webinar) – QMT elearning (qmt-learning.co.uk)	Statistical Process Control (SPC) [#050]
Production Part Approval Process (PPAP)	Production Part Approval Process (PPAP) is applied in manufacturing organisations, to approve initial parts manufactured, for eventual introduction into their future production runs. PPAP defines requirements for this initial part manufacture approval (including production and bulk materials). The objective is to determine if all customer specifications and requirements are properly understood by the supplier. Also confirming that the process has the potential to produce product consistently and reliability to these requirements, under actual production 'run-at-rate' conditions.	Core Tools (Webinar) – QMT elearning (qmt-learning.co.uk)	PPAP – Production Part Approval Process [#059] Managing Supply Chains – PT206

Supporting Courses

8D Problem Solving	8D is an effective problem-solving methodology which is utilised globally by a broad variety of organisations and business sectors. Typically, the application of 8D is prompted by a process or activity which is not meeting stakeholder needs and expectations. The application of 8D assists an organisation to identify the root cause of an issue and to develop an effective solution which will prevent recurrence of the issue.	Root Cause Analysis (Webinar) – QMT elearning (qmt-learning.co.uk)	Practitioner Level - Managing Problem Solving - PT205 8D Problem Solving [#030]
Internal Auditor Training	Internal audits are a mandatory requirement of management systems such as ISO 9001. Audits enable an organisation to: • ensure conformance of their systems to applicable requirements • ensure the effective operation of their business processes. • identify opportunities for improvement.	None	CQI & IRCA Certified Internal Auditor Practitioner Course - PT236