

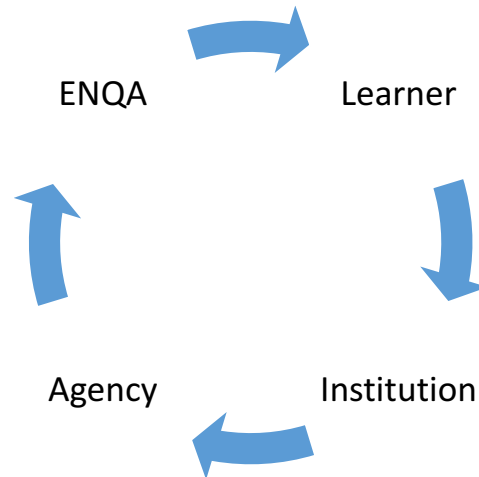
Learning from Industry:

An Industry Sourced Platform for Academic Quality Assurance Processes

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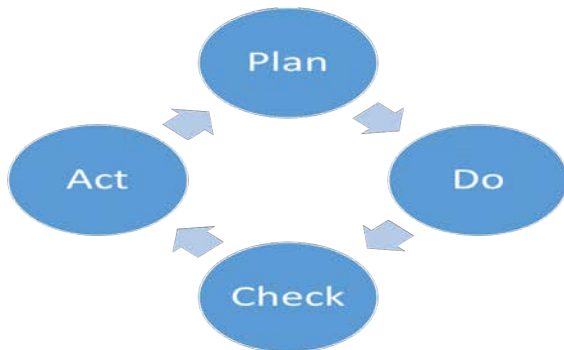
Objective:

- ***To Develop a Dynamic and Integrated Evaluation and Reporting Template and Process for Academics/ HEIs/ QA Agencies***



Methodology:

- ***From PDCA QC to distributed/ integrated / holistic QA***
- ***From externalised certification to SER-mediated validation***



SER = Self Evaluation Report

Typical Review Parameters

- *What to Review ?*
- *When to Review ?*
- *What to Review When?*
- *Who Reviews What and When?*

What to Review ?

Compliance or Enhancement ?

When ?

ESG (2015) Periodicity 1.9,1.10, 3.7 (Programme, HEI, Agency)

Characteristics of	Review/Evaluation
Timing (Routine/Scheduled)	Level of Reporting Level of Self-Evaluation
Triggers (Exceptional) (Random)	Level of Enquiry

When to Review ? What are the triggers ?

- **Significant changes in academic leadership**
- **Change in Higher Education Institution (HEI) strategic direction**
- **Change in student profile**
- **New HE entity or structure**
- **Changes in Student Experience metrics**
- **Changes in Academic portfolio**
- **Changes in recognised rankings**

Triggers ?

Significant changes in academic leadership

- **Simultaneous changes in a number of senior posts at President/ VP level/ Vice Chancellor/Director**
- **Significant number of retirements at senior / experienced staff level arising from staff age profile, early or voluntary retirement schemes etc**

Triggers ?

Change in student profile

- Nature and mix/ratios of student profile : Full Time, Part-Time, Work-based, International
- Quality (academic standard) of student intake
- Size of student intake
- Major swing in course preferences

Triggers ?

New HE entity or structure

- Amalgamation or merger with other institutions
- Change in Institute status or designation
- Legislative/Statutory standing of HEI

Triggers ?

Changes in Student Experience metrics

- **Examination results**
- **Retention rates**
- **Student satisfaction ratings**
- **Employability**

Triggers ?

Changes in Academic Portfolio

- **New Programme Introductions**
- **Significant increase/decrease in a particular level of delivery (undergraduate/postgraduate)**
- **Professional Accreditation of programmes**
 - **Failure to gain/renew accreditation**
 - **Significant demands / changes demanded by external bodies**

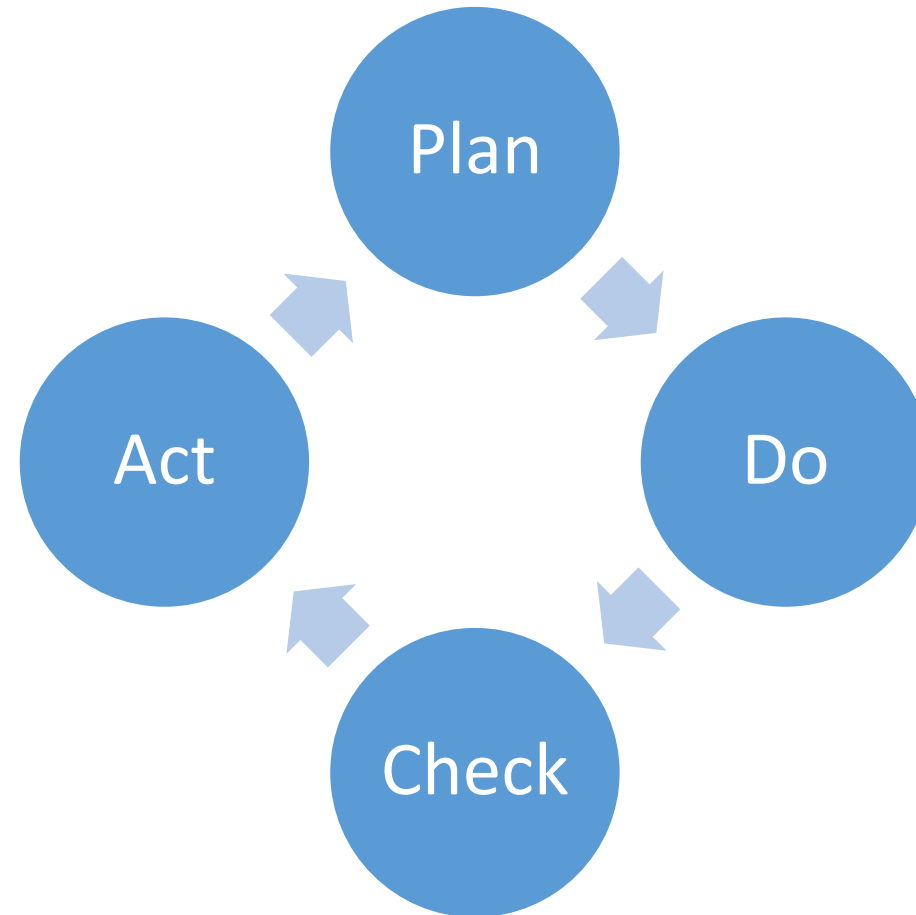
How to Review ?

A New Platform:

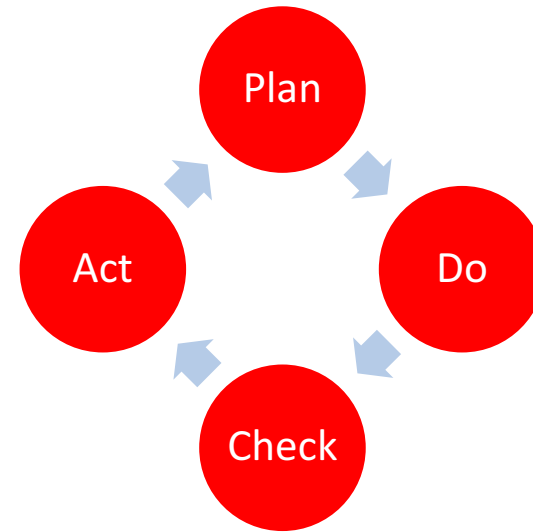
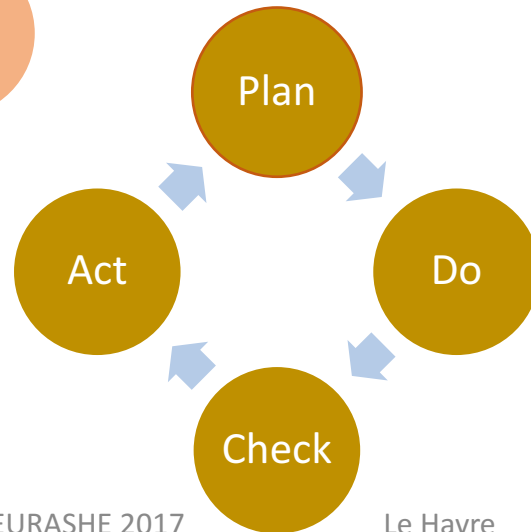
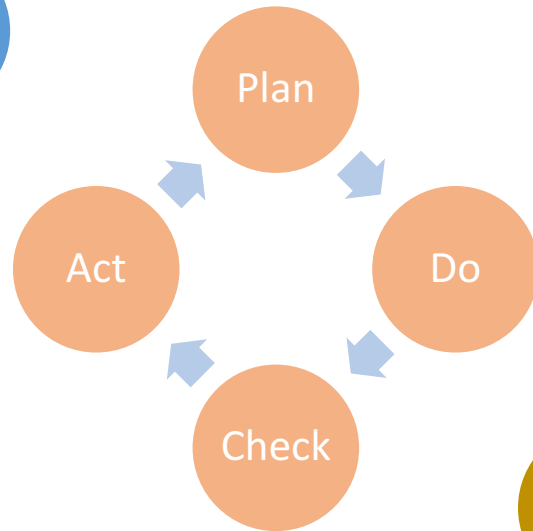
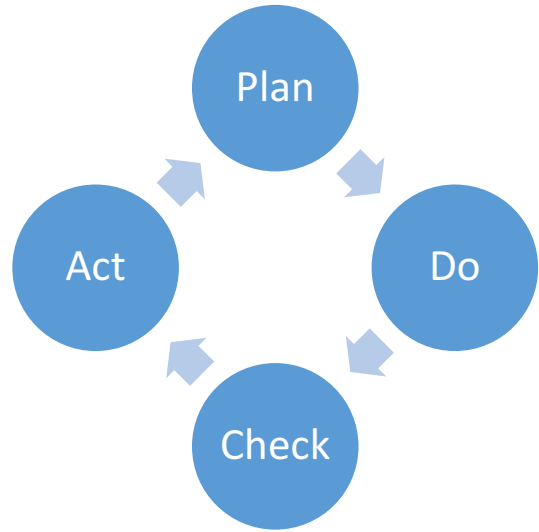
From PDCA to PAT (incorporating uniform SER and Analysis)

PAT = Process Analytical Technology

The Basic Deming Cycle



Multiple QA Cycles/ Metrics



FDA (2004) PAT Guidance

*a system for designing, analyzing, and controlling manufacturing through timely measurements (i.e., during processing) of critical quality and performance attributes of raw and in-process materials and processes, with the goal of ensuring final product quality . The goal of PAT is to **enhance understanding and control the manufacturing process**, which is consistent with our current drug quality system: **quality** cannot be tested into products; it **should be built-in** or should be by design. Consequently, **the tools and principles** described ... **should be used for gaining process understanding and** can also be used **to meet the regulatory requirements for validating and controlling the** manufacturing process.*

Process Analytical Technology - PAT

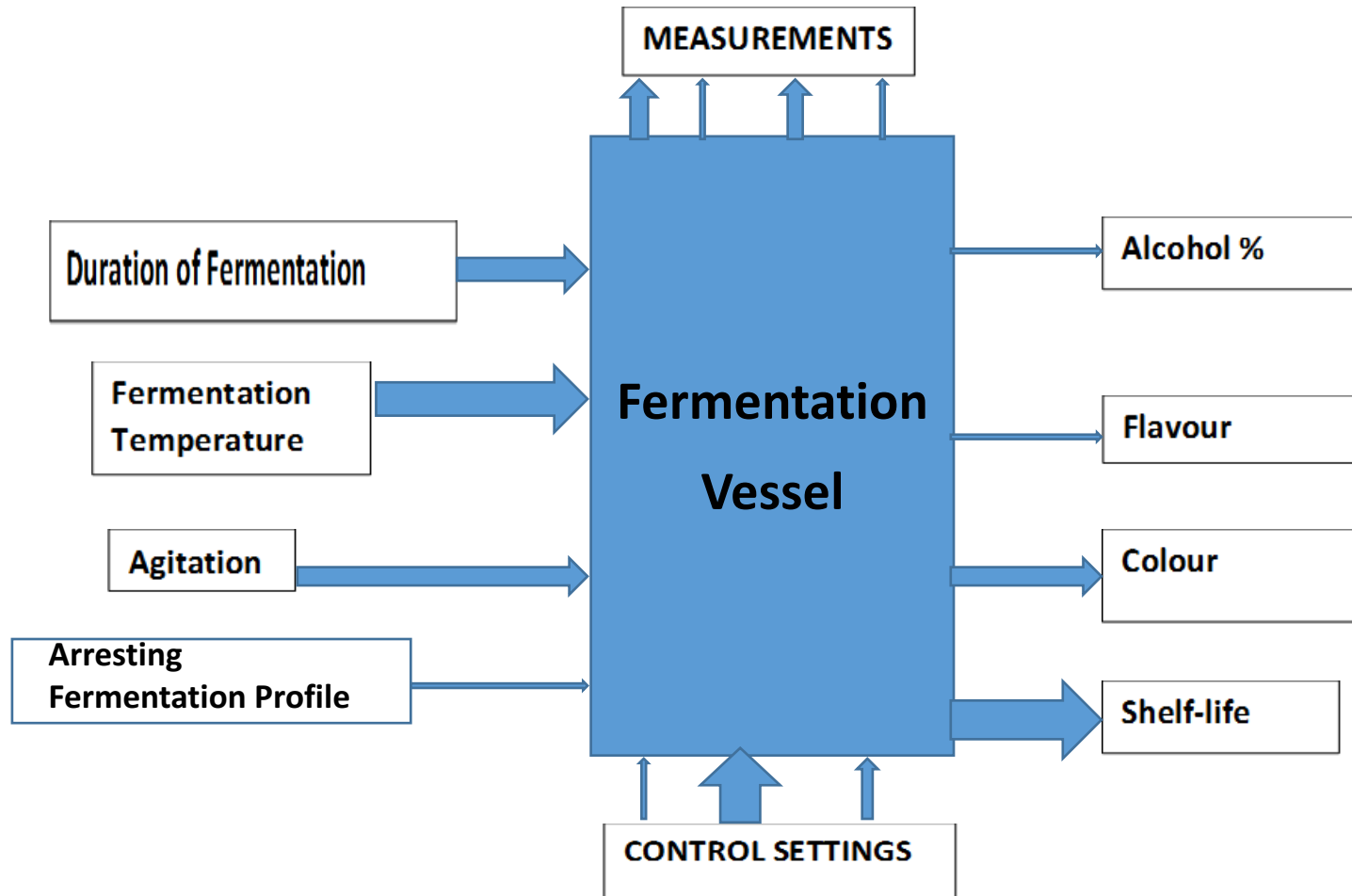
What is PAT?

A system for:

- Designing, analyzing and controlling manufacturing
 - Timely measurements
 - Critical quality and performance attributes
 - Raw and in process materials
 - Processes
- *The goal of PAT is to understand and control the manufacturing process*

FDA Guideline – September 2004

Multi Variable Fermentation Control



PAT in Summary

Manufacturer

- Records all key data on a process
 - Has thorough understanding of the process
 - Can explain process and its critical metrics to auditor
 - Can produce evidence to support enquiry response
-
- Takes on liability of Full Audit if QA system found to be not robust.

PAT in AQA : the parallels

- ***Empowering the Agency***

The FDA have embraced PAT in allowing them to oversee a more high level review, while not relinquishing the option to inspect and demand analysis at individual product or unit operation level. A similar high level, and consistent, approach to HEI review enables ,for example, thematic analysis ESG 3.4.

- ***Enabling the Actor***

As with the manufacturer or enterprise, the PAT approach also enables the HEI in that the inherent delegation of authority allows an emphasis on outcomes rather than particular minutiae , encouraging the development of structured QA/QC systems not a focus on one-off periodic reporting.

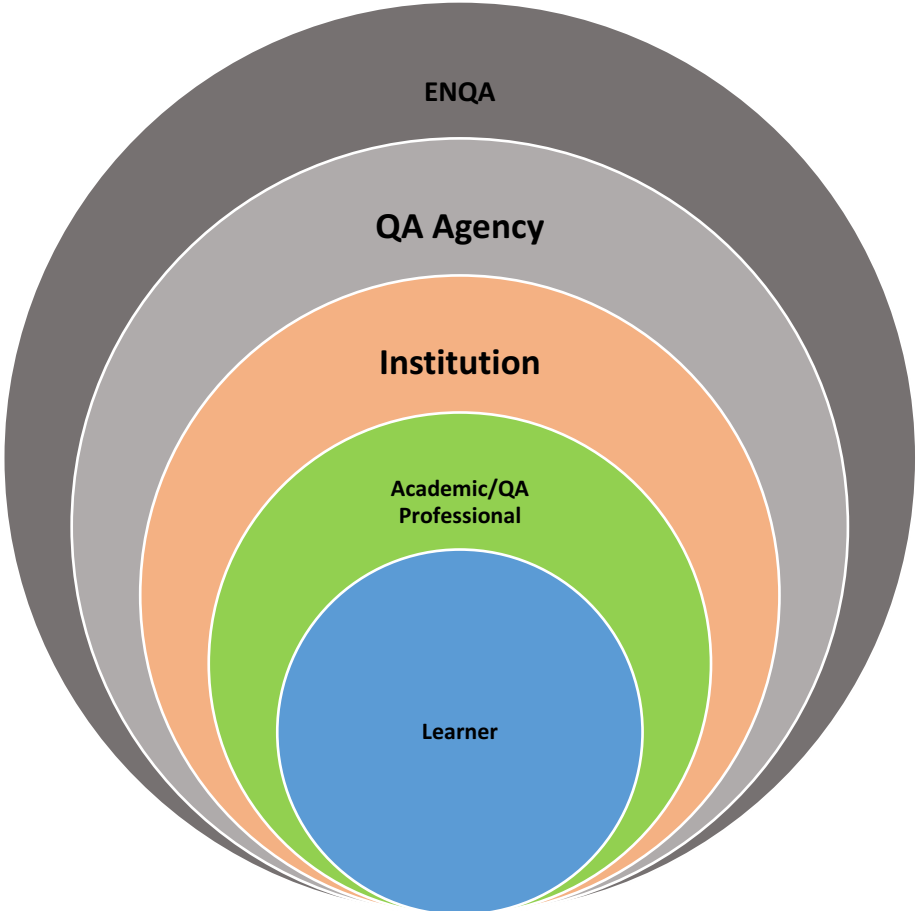
- ***Protecting the Learner***

The key aim of PAT , as deployed by the FDA, is protection of the consumer. In AQA it can protect and enhance the experience of both the learner and teacher in an analogous fashion.

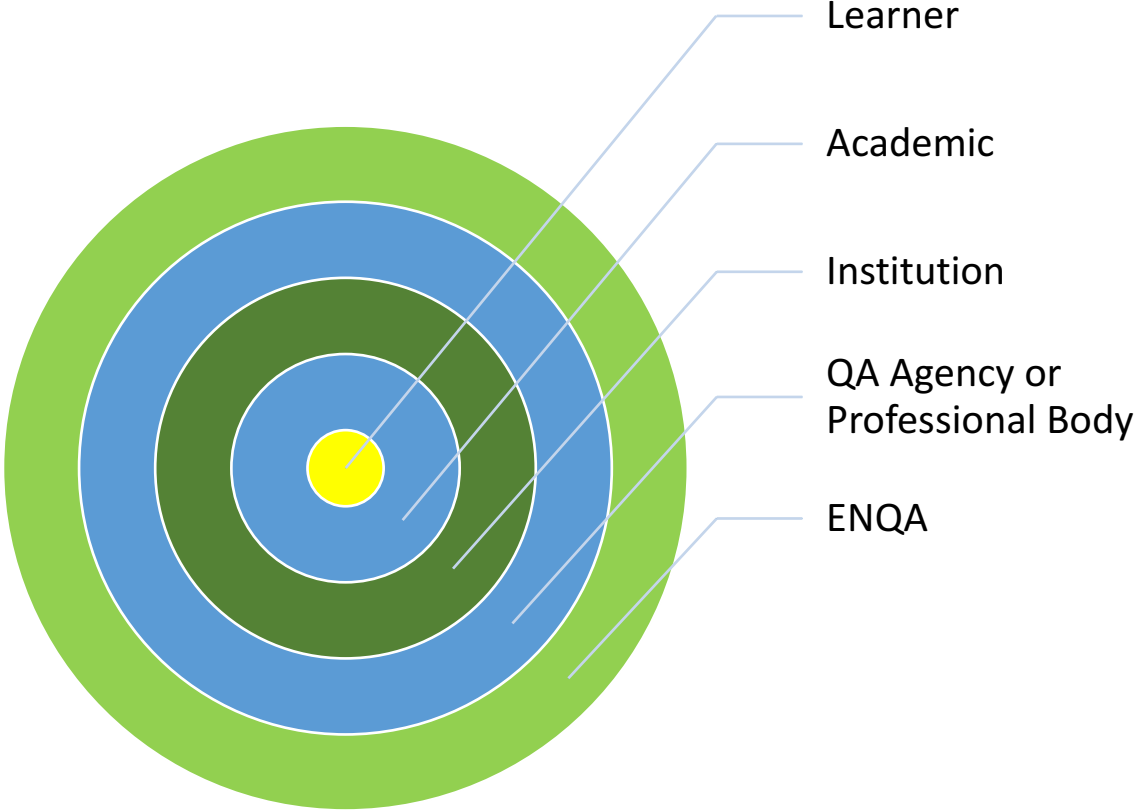
ESG & PAT : Clear Parallels

- 1.7 Information Management
 - ***Input Data for PAT***
- 1.9 On-Going Monitoring & Periodic Review of Programmes
 - ***PAT in Action***
- 1.10 Cyclical External QA
 - ***FDA***
- 2.2 Designing Methodologies Fit for Purpose
 - ***PAT purpose: Degrees of freedom based on demonstrating own effective Internal QA***
- 2.5 Criteria for Outcomes
 - ***Evidence based....basis of PAT***

The Learner at the Centre of Integrated Academic QA



The Learner as Focus / Nucleus of AQA



Professional Accrediting Bodies – CIT – a further layer of Compliance/Validation (41+)

- Institute of Physics
- Academy of Clinical Science and Laboratory Medicine
- Royal Society of Chemistry
- Chartered Institute of Management Accountants (CIMA)
- Association of Chartered Certified Accountants (ACCA)
- Chartered Institute of Personnel & Development (CIPD)
- Institute of Designers of Ireland
- Visual Artists Ireland
- Department of Transport (MSO)
- Society of Chartered Surveyors
- Royal Institute of Architects of Ireland
- Engineers Ireland
- Institution of Chemical Engineers (IChemE)
- The Teaching Council
- Chartered Accountants Ireland
- Institute of Certified Public Accountants in Ireland (ICPAI)
- Marketing Institute
- Irish Hospitality Institute
- Crafts Council of Ireland
- Irish Association of Creative Art Therapists
- Chartered Institute of Building
- European Council of Interior Architects
- Chartered Institution of Building Services Engineers
- Institution of Structural Engineers
- Institute of Biomedical Sciences
- Institute of Chemistry of Ireland

AQA as an Integrated and Shared/Co-owned Process

Ownership of AQA

- AQA is not separate from the Learner.
- AQA should not be isolated from the Learner.

- AQA is not separate from the Academic faculty member.
- AQA should not be isolated from the Academic faculty member.

- AQA Agency is not separate from the QA practitioner.
- AQA Agency should not be isolated from the QA practitioner.

- ENQA is not separate from the QA practitioner or Academic.
- ENQA should not be isolated from the QA practitioner or Academic.

ESG 2015: Purposes

- **Set** Common Framework for QA systems
- **Enable** Assurance & improvement of quality of HE
- **Support** Mutual Trust
 - Recognition
 - Mobility
- **Provide** Information on QA

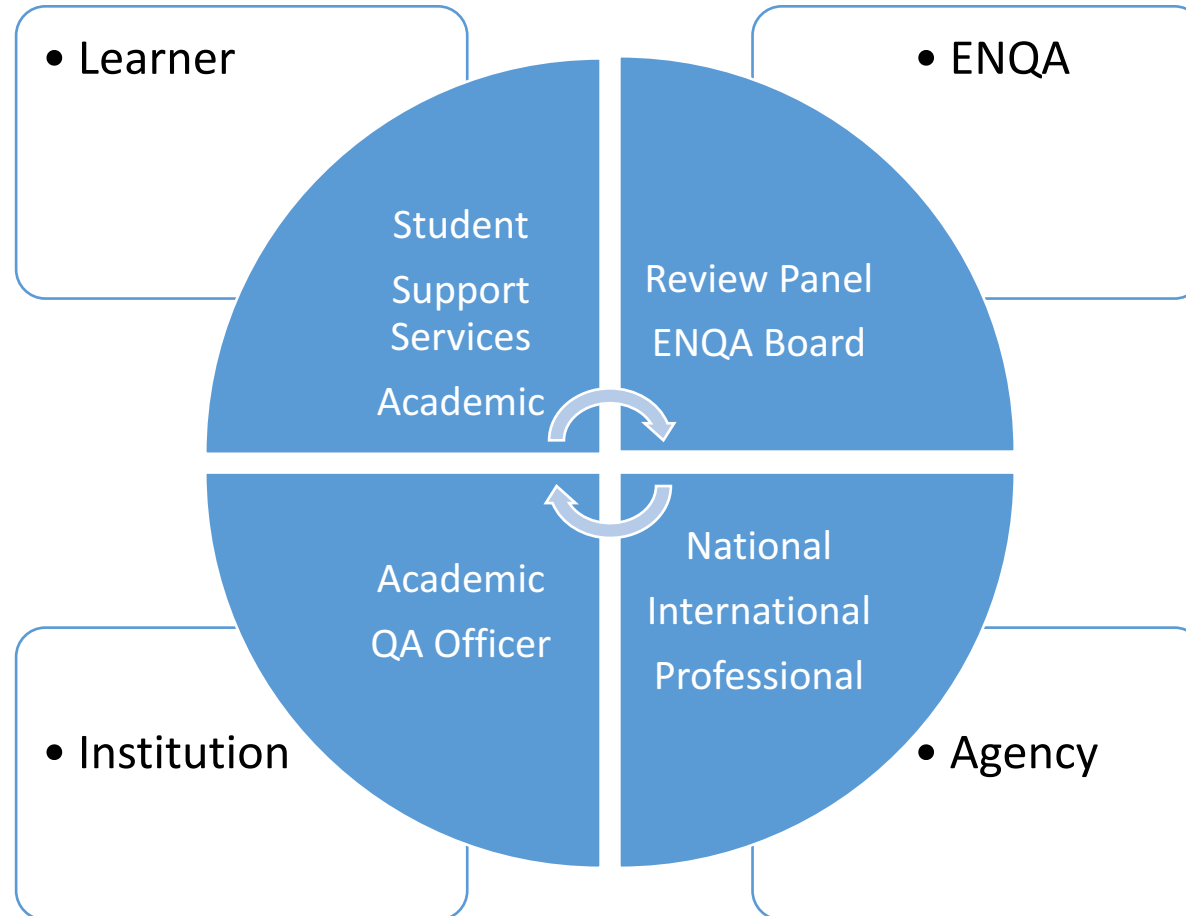
Ref : ESG 2015

ESG 2015 : Basic Principles

- HEI has primary responsibility for Quality and Quality Assurance
- QA responds to the inherent diversity of HE
 - Systems
 - Institutions
 - Programmes
 - Students
- QA supports development of Quality culture
- QA takes account of needs & expectations of students, stakeholders & society

Ref : ESG 2015

Entities in Academic Quality Assurance: The main actors/owners



The DIERP Platform

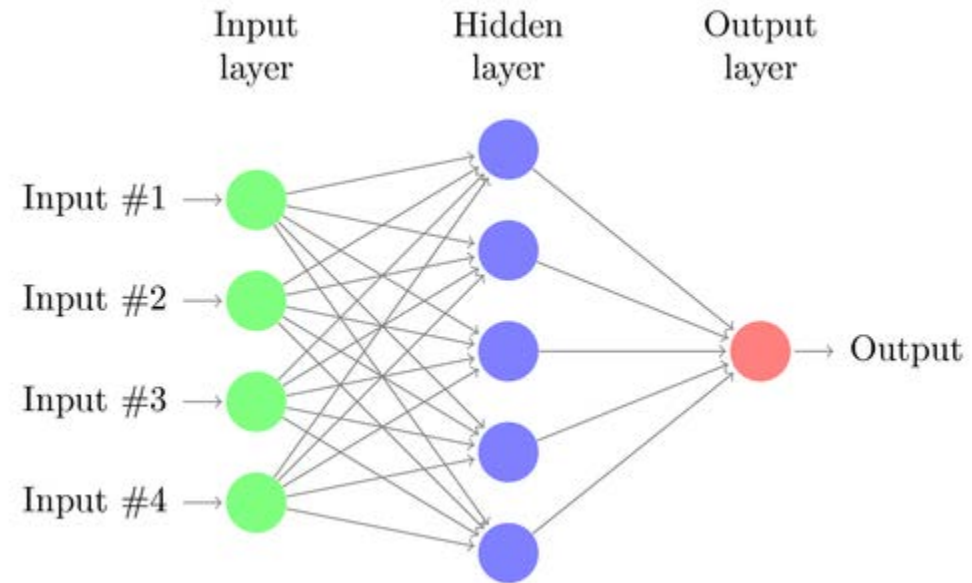
A template for integration of accreditation policies, practices and procedures.

- **The Dynamic and Integrated Evaluation and Reporting Process (DIERP)**
- **will be a**
 - responsive,
 - future-proofed system,
- **supporting**
 - evidence-based,
 - uniform/consistent process ,
 - with a full-horizon focus on AQA.

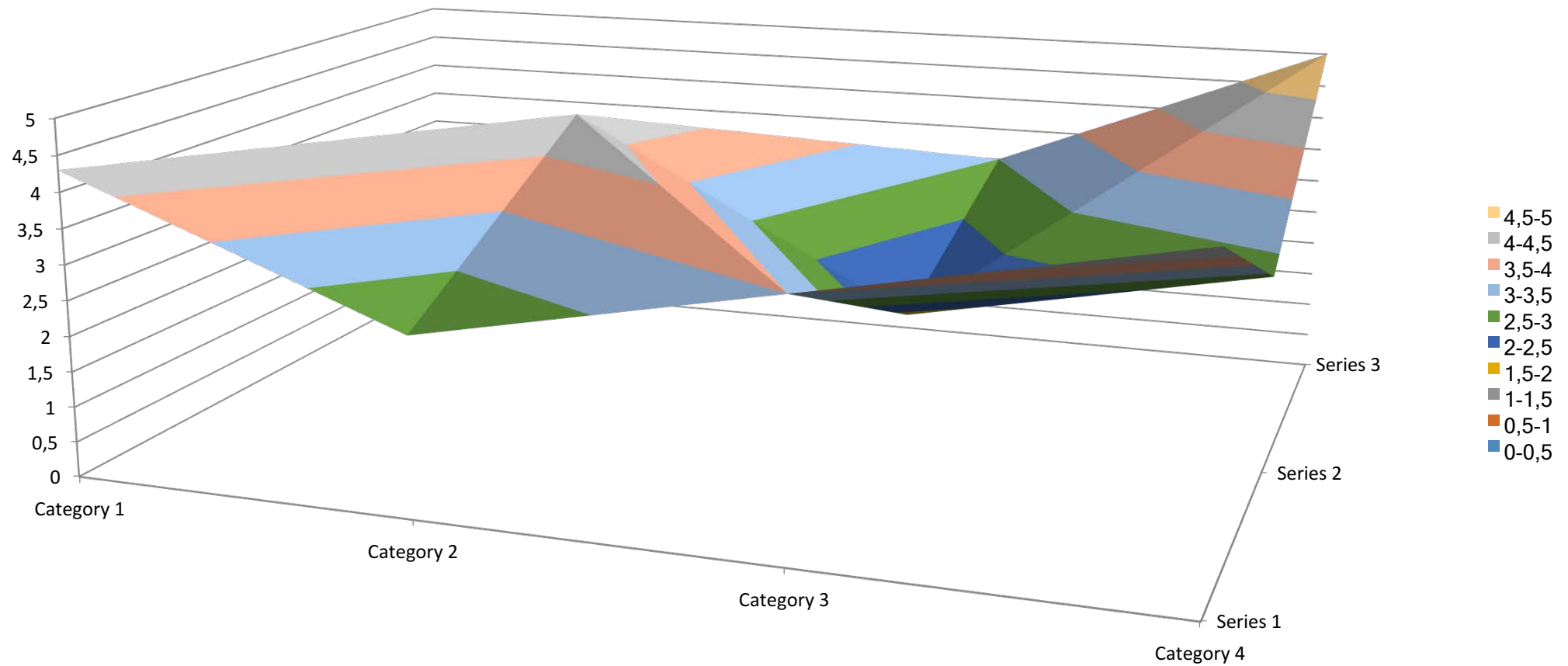
Implementing the DIERP : ICT Tools, off the shelf

- **Neural Networks**
- **Fuzzy Logic**
- **Response Surface Methodologies**
- **Statistical Process Control**
- **Benchmarking**
- **Expert Systems**
- **Model Based Predictive Control**

Standard Neural Network Representation



Representing the Analysis/Trends : Multi Dimensional Representation



Possible Discussion Questions

- **What MIS tools are currently in use by EURASHE members for AQA ?**
- **What agencies/institutions or QA practitioners would be interested in advancing this new AQA platform as a pilot project for Programme Validation , Institutional Review or Professional Accreditation ?**
- **In reviewing the Programme/Institutional review process , how should the list of standard questions be expanded as to**
 - **What to review ?**
 - **When to review ?**
 - **What level of detail to review in AQA ?**
- **How should the balance be struck between compliance and enhancement in AQA ?**
- **Should the number of agency/professional body reviews be combined/streamlined?**