



RFMD[®] Quality



Mobility. Connectivity. Energy.

RFMD Quality Policy

RFMD Quality Policy

At RFMD we are committed to satisfying our customers by:

- Providing products with exceptional quality, reliability, and performance.
- Pursuing excellence in product development and time-to-market.
- Continually improving our products, processes, and services.



Bob Bruggeworth
RFMD President and CEO

RF-02-7 Rev. C

RFMD Quality

1 Worldwide Quality Overview

2 Customer Quality Engineering

3 Supplier Quality Engineering

4 Product Quality Engineering

5 Continuous Improvement

6 RFMD Green

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3 Supplier Quality Engineering

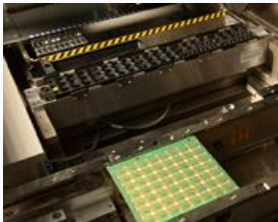
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RFMD Quality

RFMD's dedication to quality to exceed customer expectations and ensure customer satisfaction is evident by the integration of quality throughout the organization.



Quality Systems

- Ensure processes are defined, documented, and controlled.
- Audits are conducted and corrective/preventative action is taken.
- Controlling of documents and records.

Customer Quality Engineering

- Facilitates the organization to achieve and improve customer satisfaction.
- Works closely with our customers and internal organizations to collect and act on data to improve customer satisfaction.

Supplier Quality Engineering

- Responsible for assuring that a supplier has the business systems, process capabilities, and process monitors in place to provide consistent quality in their products and services.
- Assessments are conducted, deficiencies identified and resolved before a supplier can be placed on the Approved Supplier List (ASL).

Advanced Reliability Engineering

- Works with Advanced Development Teams/ Projects during the new technology development stages helping to provide reliability support during progression toward the product level stage.

RFMD Quality

Each functional area of the company is responsible for achieving and maintaining quality expectations with assistance from the quality team.



Product Quality Engineering

- Works with our design and development teams to ensure the quality requirements of RFMD and the customer are met.
- Monitor emerging technologies, define and manage product qualifications, and drive continuous product quality improvement.

Manufacturing Quality Engineering

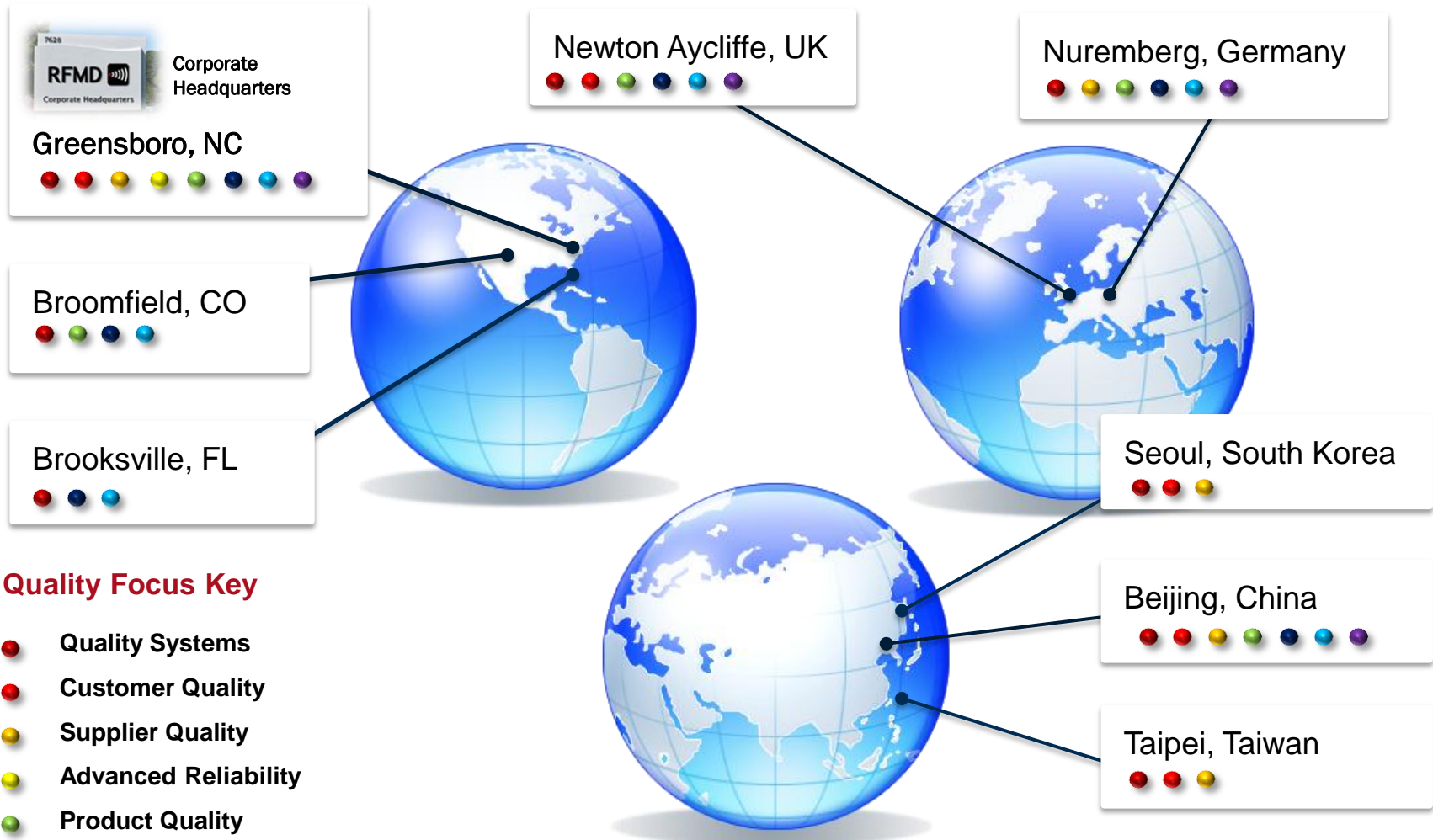
- Quality engineers in our manufacturing areas are responsible for ensuring the internal manufacturing processes are effective and producing product to customer requirements.
- Engineers carefully monitor process control data and continuously drive improvements throughout the process.

Calibration

- RFMD maintains a robust calibration program to ensure the capability of our monitoring and measuring equipment. Accuracy of measurements is assured by maintaining traceability to national standards.

Failure Analysis and Reliability

- The failure analysis group provides electrical and physical failure data on products throughout their life cycle.
- The reliability group conducts device and package level stress testing on all RFMD parts to ensure they meet quality and reliability standards.



Quality Focus Key

- Quality Systems
- Customer Quality
- Supplier Quality
- Advanced Reliability
- Product Quality
- Manufacturing Quality
- Calibration
- FA/Reliability Labs

Corporate Certifications Highlights

- **ISO 9001**: Quality Management Systems
- **ISO 14001**: Environmental Management Systems
- **AS 9100**: Aerospace Quality Systems
- **OHSAS 18001**: Occupational Health and Safety Management Systems

Copies of certificates can be found on the [RFMD website](http://www.rfmd.com).



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RFMD's Customer Support Approach

Customer
Interaction

Design Engineering

Sales and Marketing

Customer Quality Engineering

Customer Applications Engineering

Customer

Interaction



Quality Driven Customer Support



6σ

**KEPNER
TREGOE**

DPM



Global Product Analysis Support

- *Fully automated tracking system*

Global Resources and Approach to Problem-Solving

- *Active 6-sigma program*

Global Root Cause Analysis and Elimination

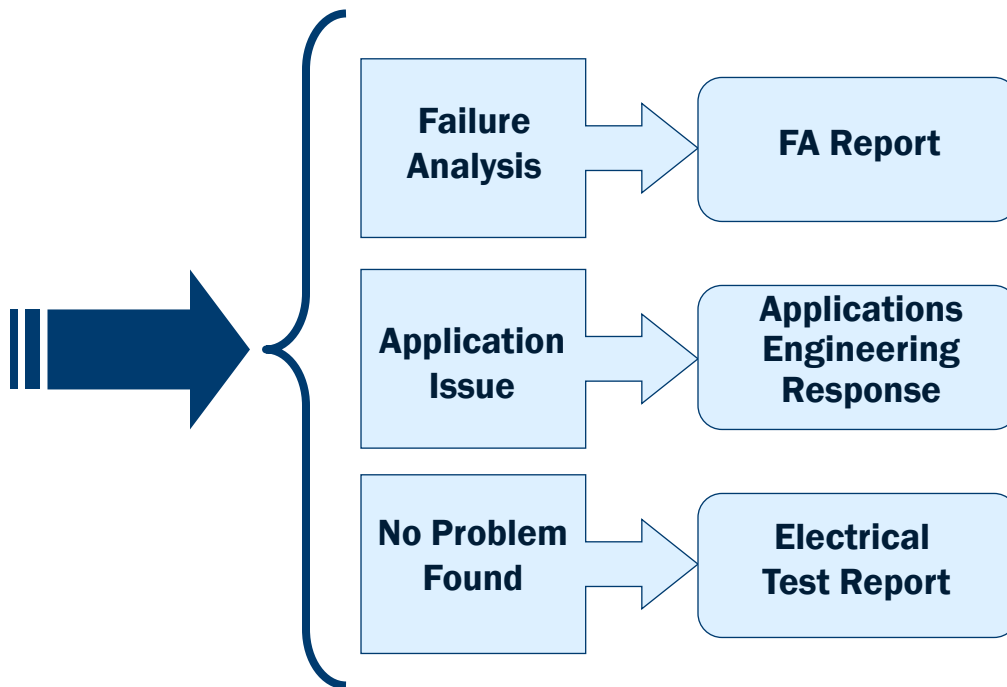
- *Resources trained in problem solving and decision making*

Global Approach to Factory DPM Reduction

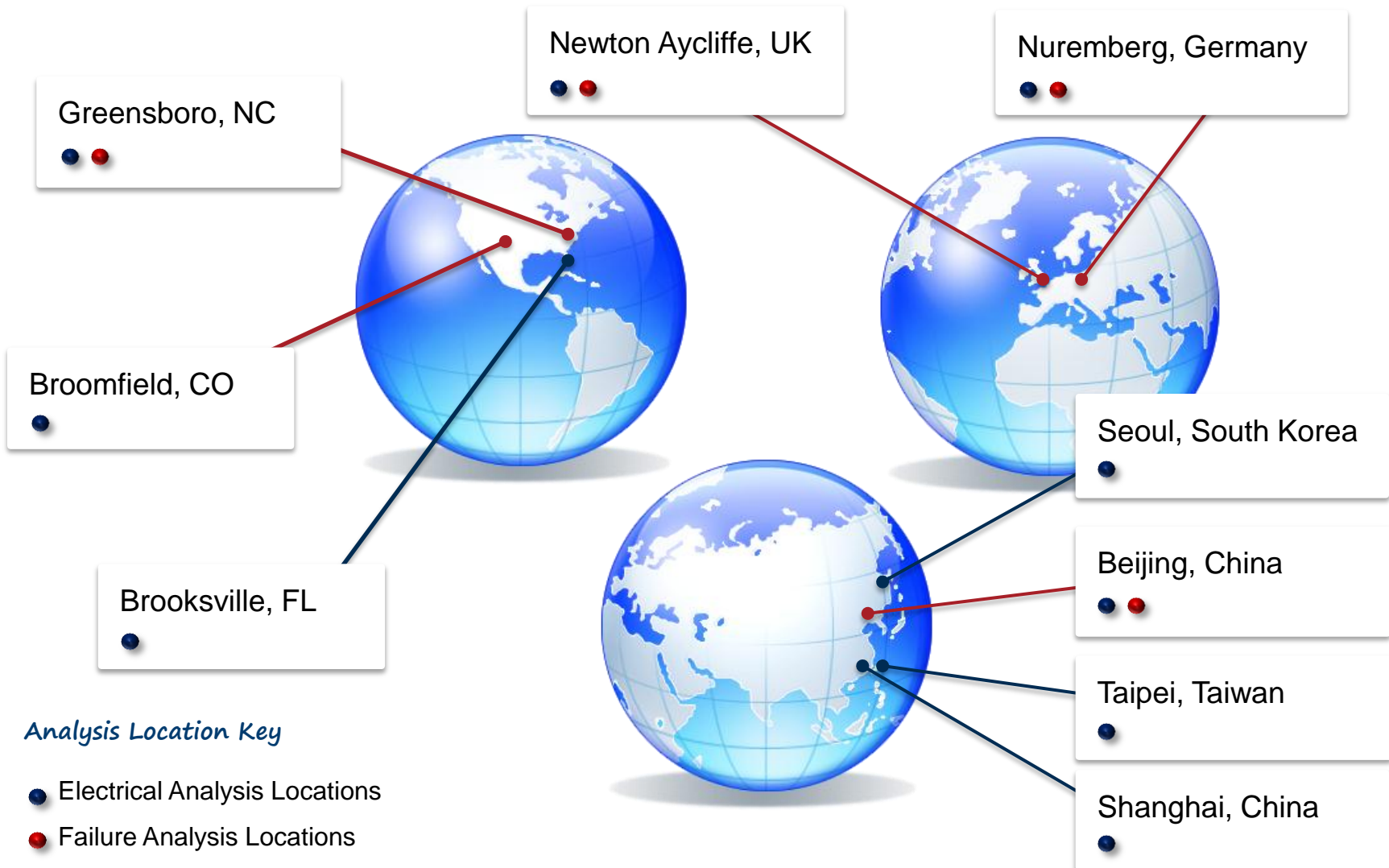
Timely and Effective Product Development

RoHS/Halogen Free Corporate Run Program

Process Flow for Product Returns for Failure Analysis (RFA)

**Two steps that are critical to this process**

- Receiving accurate information from the customer such as the lot number, failure mechanism, etc.
- Understanding of the customer's application.



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Our mutual success depends upon the entire supply chain embracing the highest standards of quality.

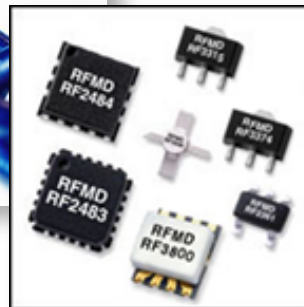
Commitment — RFMD is committed to ensuring continuity of supply, reduction of defects, and NO quality spills.



Change Management — All changes must be properly communicated to RFMD via a Process Change Request (PCR). RFMD closely checks for unauthorized changes through continued process monitoring.

Continuous Improvement — Issues are an opportunity to improve the process. RFMD demands thorough root cause investigation to ensure robust corrective actions are implemented to eliminate reoccurrence of the issue.

Process Control — All employees must follow work instructions and RFMD approved processes. Detailed control plans documenting and controlling process parameters are crucial. Critical parameters are clearly identified and Statistical Process Controls (SPC) are in place to alert the manufacturing operation of possible issues before they occur.



Supplier scoring is based on six key performance indicators that are monitored by RFMD and weighted as follows

1

- Frequency of supplier corrective actions.

2

- Defect rates and yields.

3

- Traceability and change control to RFMD requirements.

4

- Responsiveness to requests for information, approval of RFMD requirements, process change requests.

5

- Robustness of quality systems and management of suppliers.

6

- Continuous improvement and continuous supplier improvement.

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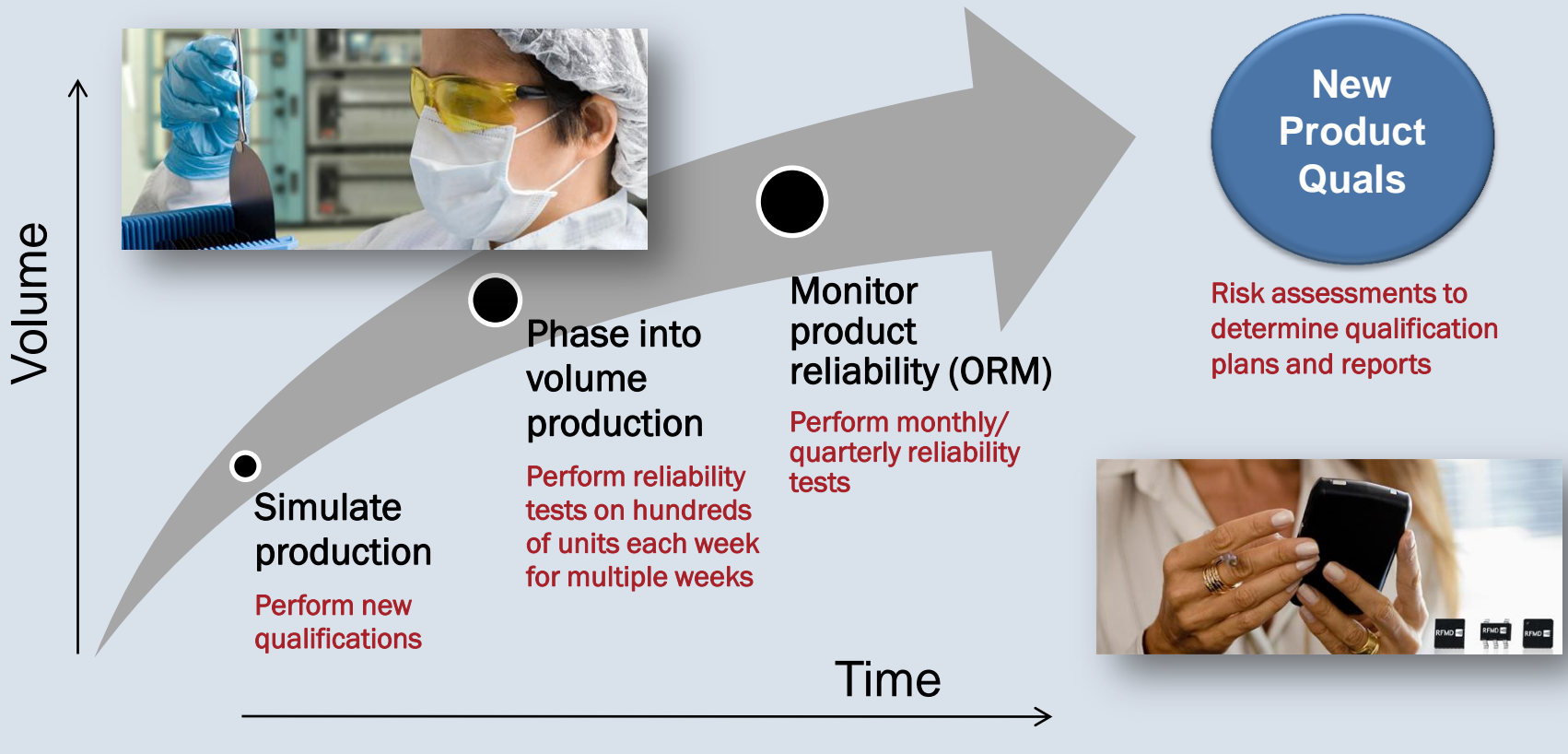
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Product Qualification Philosophy



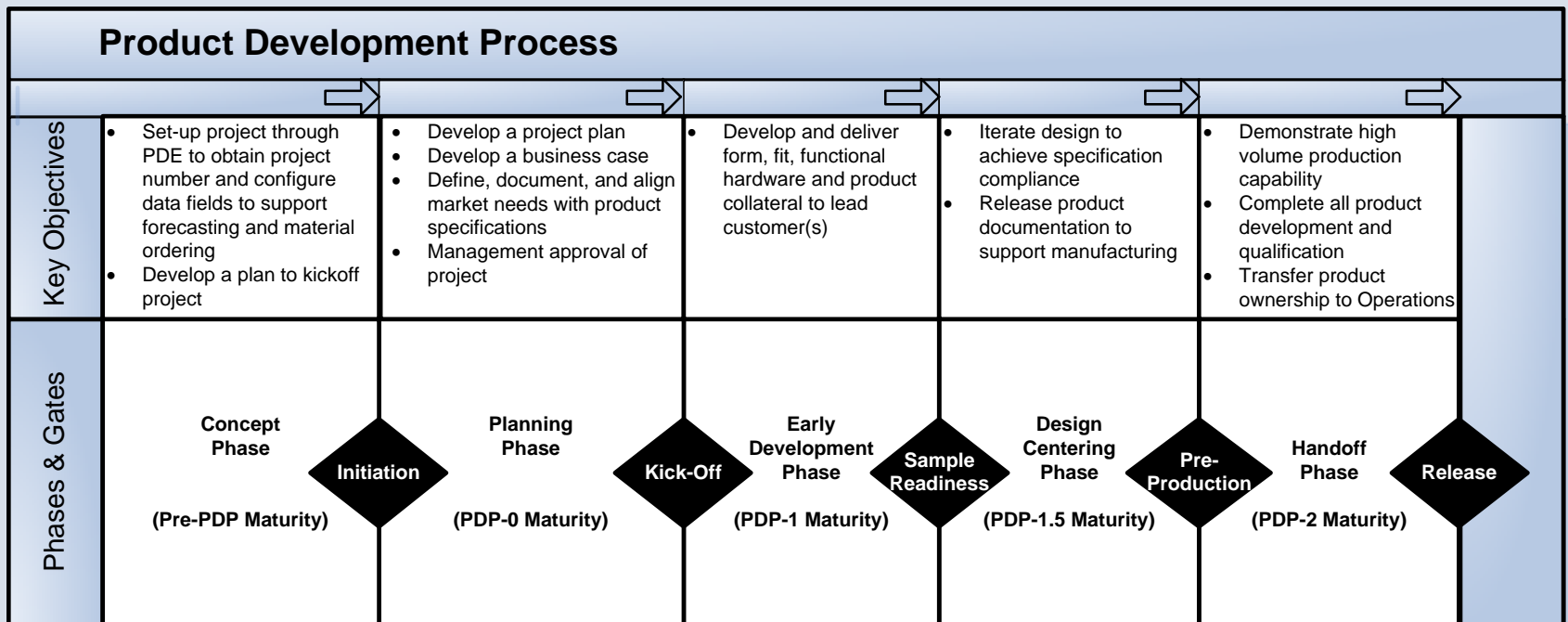
- Establish a solid knowledge base with extensive reliability testing on new technologies.
- Utilize potential problem analysis techniques to identify risks in design, manufacturing, and qualification.
- Develop product qualification strategies for each product considering
 - Applicability of existing reliability data.
 - Timeliness of existing reliability data.
 - Confidence levels.
- Utilize both existing reliability testing and additional reliability testing to meet RFMD and any specific customer qualification requirements.

New technologies and new manufacturing processes are carefully qualified and ramped.



Product Quality Engineering

Product Development Process



- Stage gate process which ensures production readiness
- After release gate approval the product is “Production Released” (PDP-3 maturity)

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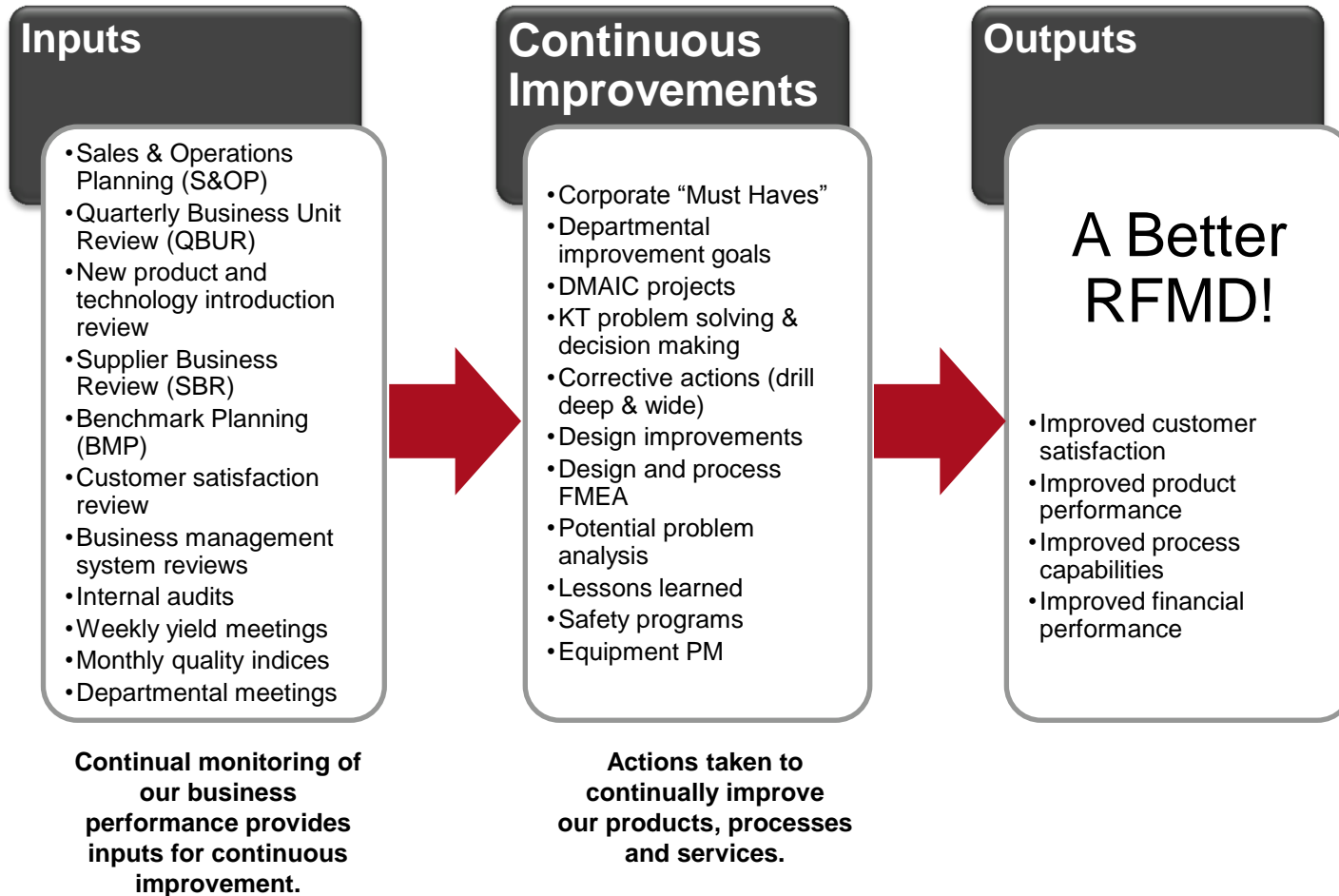
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6 Sigma training provided to key individuals globally to lead improvement projects



What is important?

- Identify opportunity for improvement
- Map the process
- Determine customer needs
- Define performance standards
- Build effective teams

How are we doing?

- Determine what to measure
- Specify measurement criteria
- Validate measurement system
- Measure process capabilities and performance

What is wrong?

- Determine sources of variation
- Screen potential causes
- Identify potential solutions

What needs to be done?

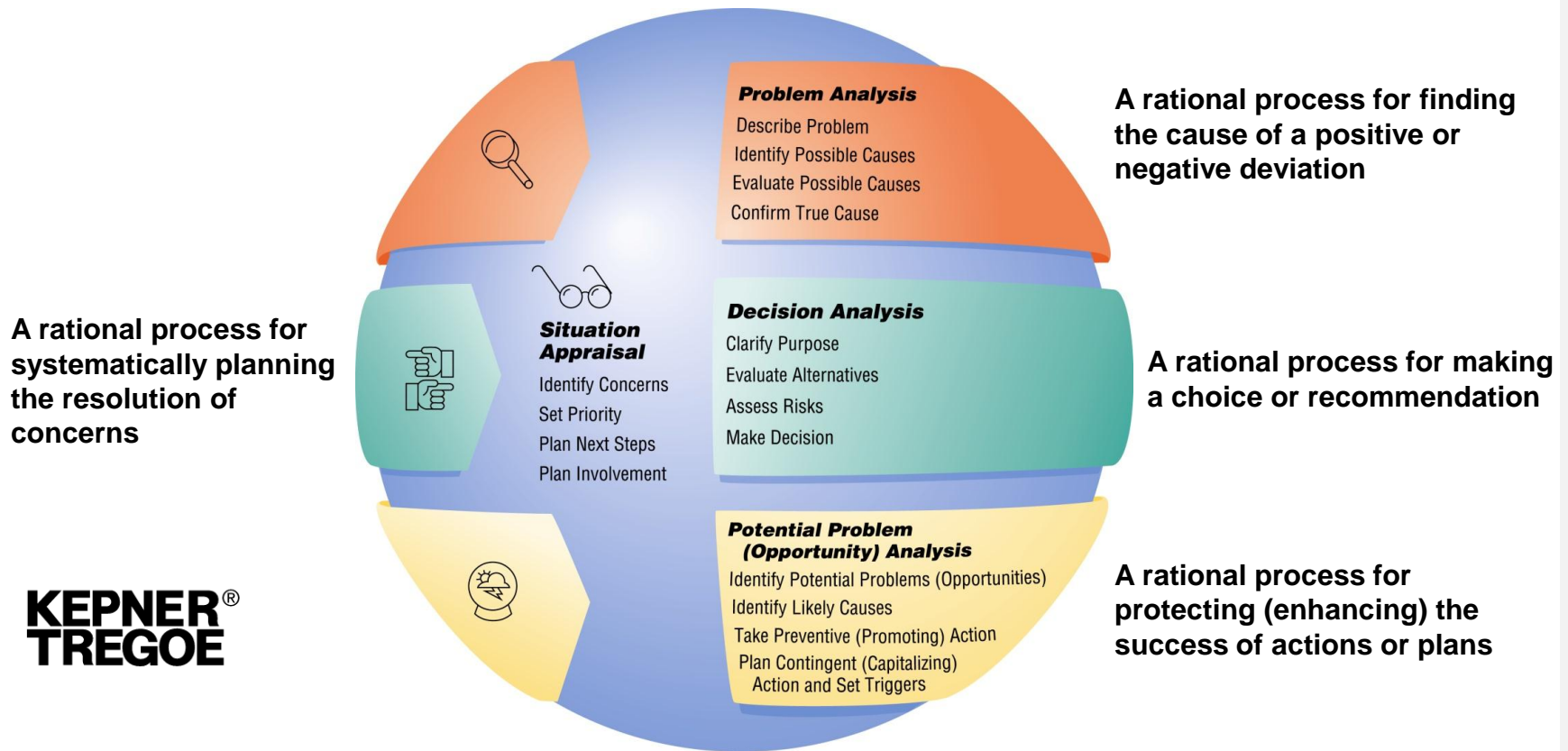
- Determine relationships between variables
- Generate improvement ideas
- Confirm results and validate improvements
- Implement best solution

How do we guarantee performance?

- Define and monitor new process capability
- Implement process controls to maintain performance
- Communicate lessons learned
- Complete project documentation

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Trained staff in Kepner-Tregoe's structured approach to problem solving and decision making.



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Pb-Free



EU RoHS



Halogen Free

Environmental Policies and Objectives

- RFMD environmental policies and objectives include recycling, treatment, process changes, control mechanisms, efficient use of resources, and material substitution in order to reduce adverse environmental impacts.
- Our organization and its employees strive to be informed, concerned, and proactive environmental stewards.
- Our commitment to green products is a natural evolution of these ideals.
- RFMD has defined and is achieving green compliance that
 - Surpasses RoHS compliance by continued elimination and/or reduction of restricted substances.
 - Is consistent with known market timetables.
 - Aligns with customer's targets.
 - Is integrated into new part designs.



RFMD Green





Do You Have Any Questions?

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