

# QUALITY SERVICE PROVIDERS' ADDED VALUE

IN AUTOMOTIVE INDUSTRY SUPPLY CHAIN  
MANAGEMENT

WORLD QUALITY FORUM OF IAQ—OCTOBER 26–27, 2015

**TRIGO**   
The quality network

# APPROACH

**Ways to optimally utilize service providers' high value-added know-how in the automotive supply chain. . .**

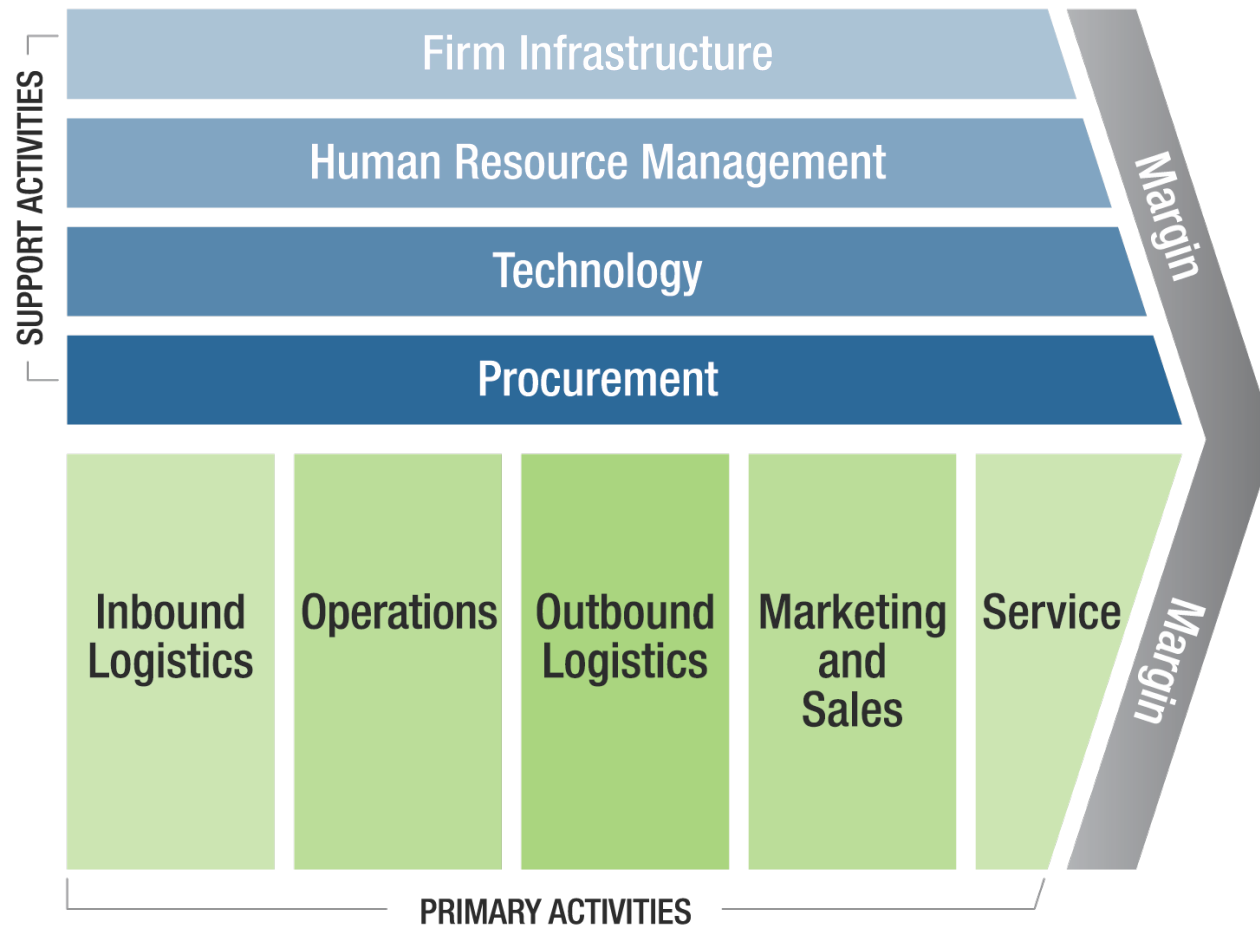
- Supply chain vs. value chain involvement
- Factors and KPIs in supply and value chain
- New quality management challenges on the global market
- New roles of quality service providers in the supply and value chains
- New model approach for cost of quality
- Service providers and integration level
- Challenge: comprehensive high added value integration into the multi-level supply chain

# SUPPLY CHAIN // DEFINITION



„A **supply chain** is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. Supply chain activities involve the transformation of natural resources, raw materials, and components into a finished product that is delivered to the end customer.”

# VALUE CHAIN // DEFINITION



„A **value chain** is a set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market.”

**Michael E. Porter**

# DIFFERENCES IN APPROACH AND KPIs

## SUPPLY CHAIN



- Pragmatic

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### KPIs:

- Product quality
- Quantity / volume
- On time delivery
- Competitive price
- Service

## VALUE CHAIN



- Holistic

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### KPIs:

- Profitability
- Long-term market positioning
- Reputation
- Perceived quality rating
- Long-term reliability

# EXTENDED QUALITY SCOPE // DRIVERS

## PUBLIC AWARENESS

- Transparency on the market
- End-customer becomes more and more conscious about safety and quality



## GLOBALIZED CUSTOMER EXPECTATIONS

- Reliable functions
- Perceived quality
- Durability



## INCREASING CONSUMER RIGHTS

- Meet legislation requirements (e.g.: emission)
- Fulfill safety & compliance



# EXTENDED QUALITY SCOPE // COVERAGE



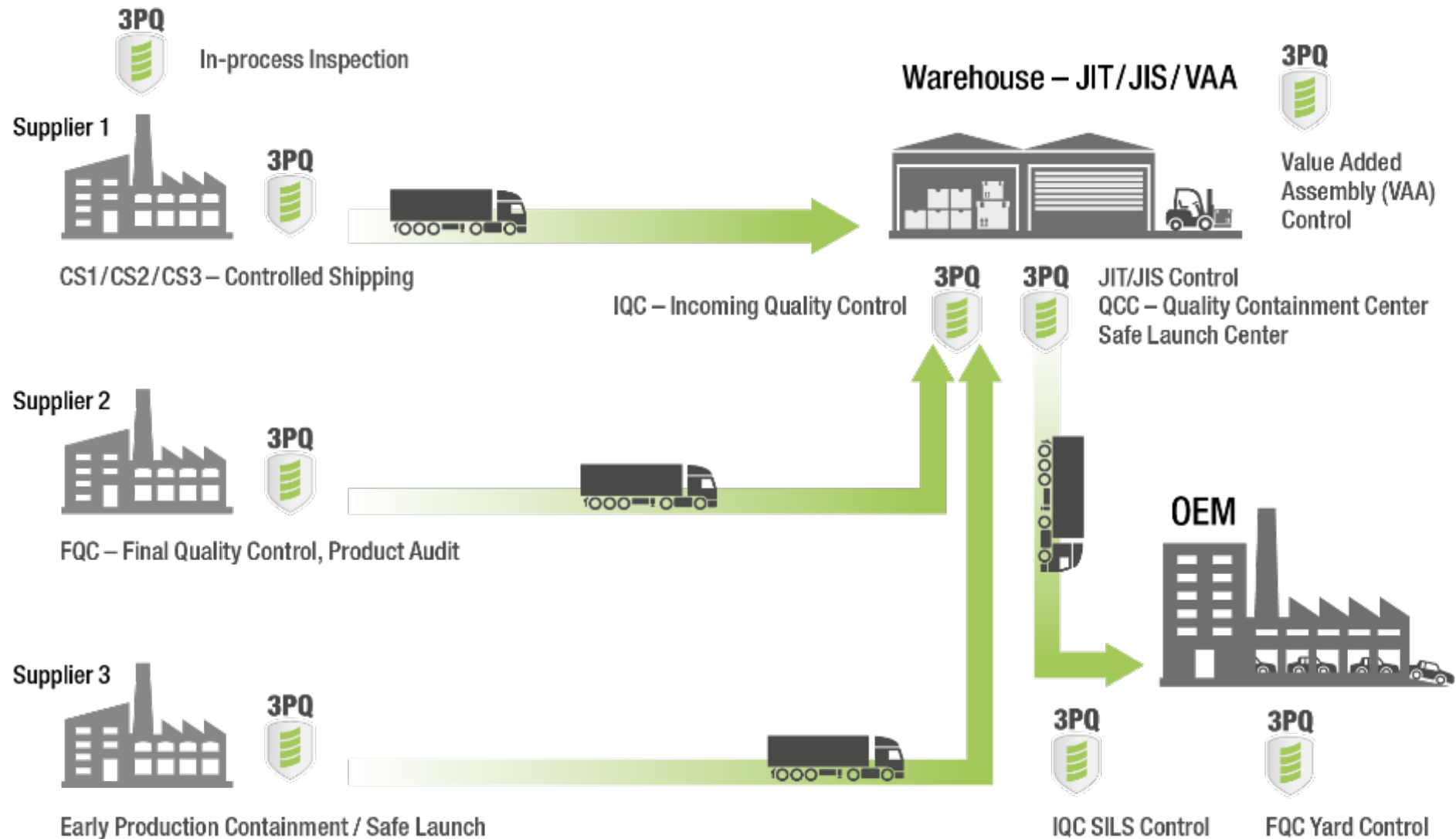
Cover the entire supply chain with appropriate quality management tools, systems, and processes along:

- manufacturing,
- procurement,
- distribution,
- logistics,

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- product development,
- supplier development,
- marketing,
- sales,
- after-sales services.

# HARD FACTORS IMPACTING THE SUPPLY CHAIN

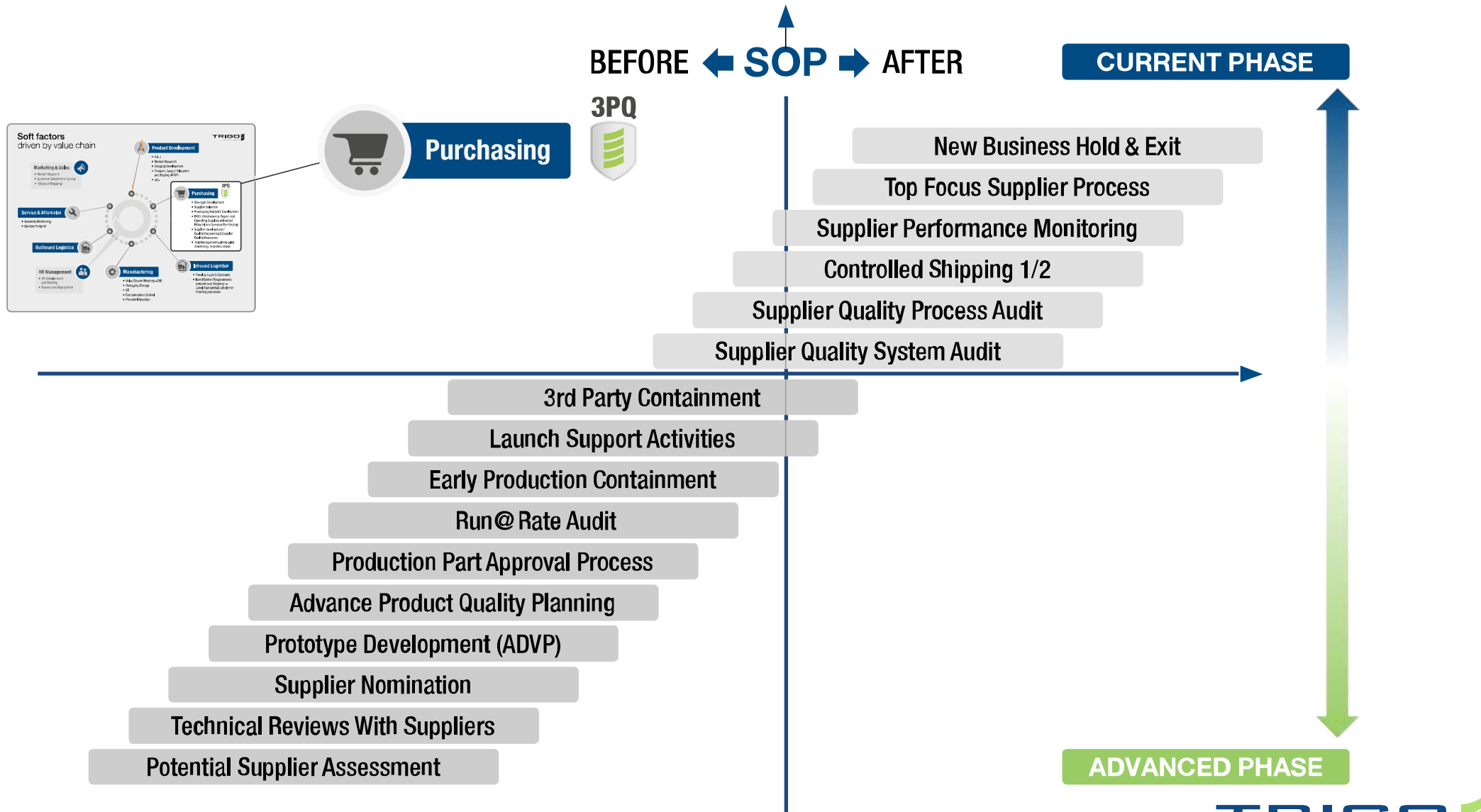




# SOFT FACTORS DRIVEN BY THE VALUE CHAIN



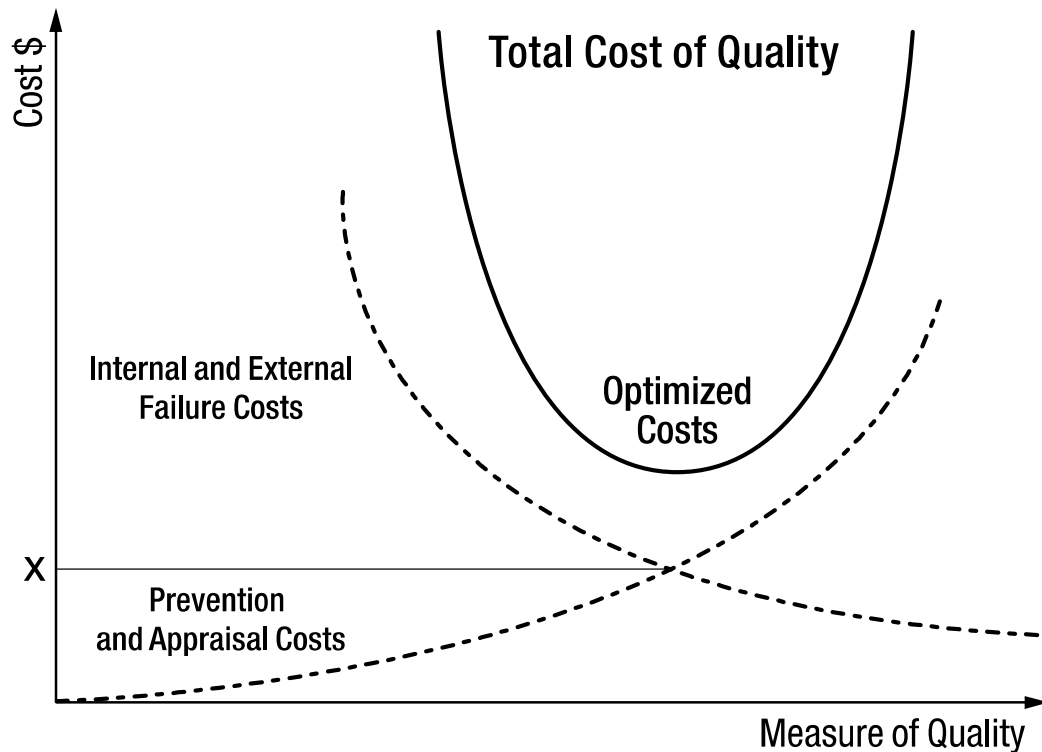
# 3PQ SERVICE PROVIDER PORTFOLIO IN SUPPLIER DEVELOPMENT



# 3PQ SERVICE PROVIDERS INVOLVEMENT // ASPECTS

- The applicable quality activities are not part of the core business, and the customer does not want to deal with them
- The customer's organization may lack knowledge or know-how
- The customer may face uneven demand needs or just periodic requirements
- Balance resourcing may be needed
- Immediate resources may be needed
- It is necessary to avoid "familiarity blindness"
- The customer insists on third party involvement at supplier's (e.g.: CS2) due to the loss of trust, or in order to simply leverage or penalize the supplier
- Some organizations may look for complex solutions for their quality problems along the entire supply chain

# COST OPTIMIZATION



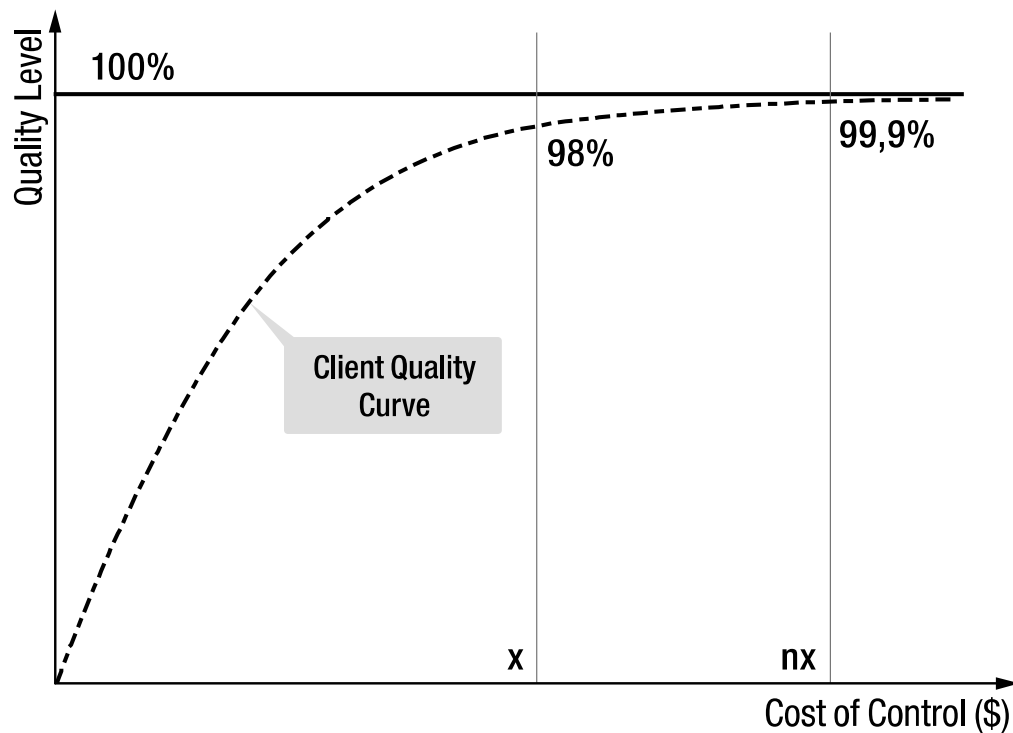
## FACTS

1. Companies have to optimize their spending on the preventive side.
2. The consequent cost (failure cost) statistically will never be zero (especially not at the optimum).

However, at the initially calculated cost of quality optimum, there is a remaining gap that is unlikely tolerated by the customer.

As a consequence, manufacturer has to make further efforts to eliminate this gap.

# MANUFACTURING QUALITY CURVE // OBJECTIVES

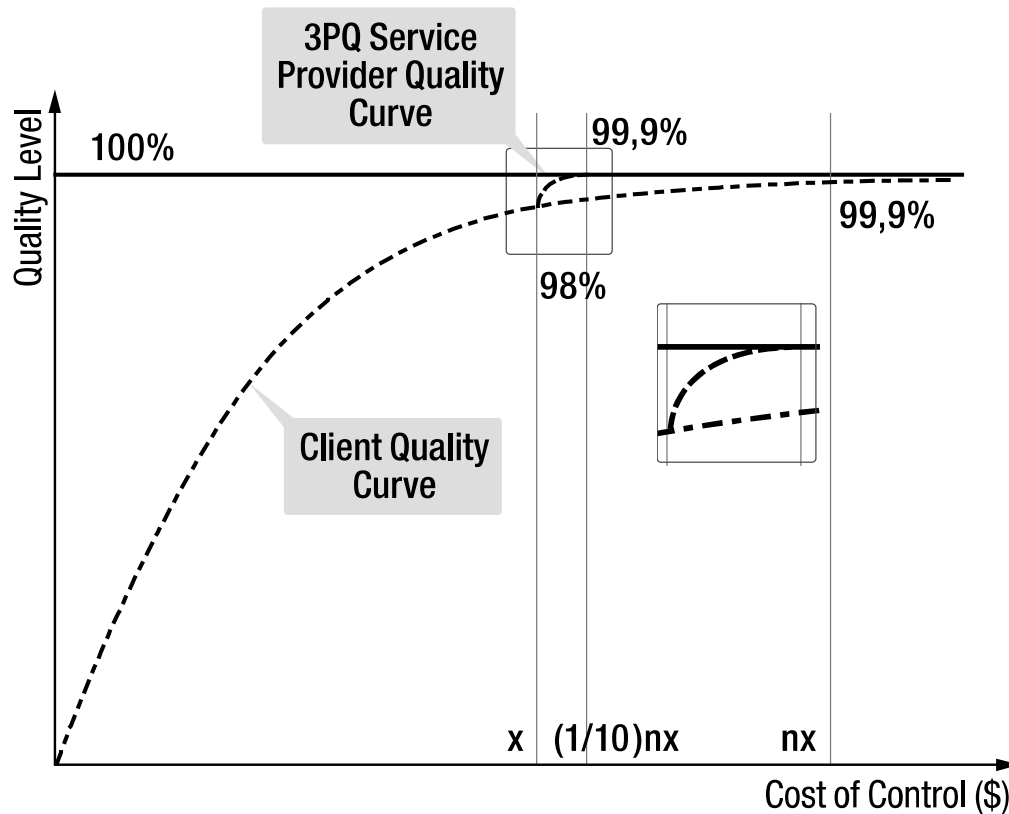


- The quality level „x” is not 100%, which is not tolerated by the customer
- Spending „n” times „x” money on the cost to control the quality level may be at 99,99% (100 ppm)
- This money is substantially higher than the consequent cost at „x” so it does not pay off

## OBJECTIVES

- Satisfy the customer (zero tolerance approach)
- Bridge the quality gap spending less than the consequent cost at the optimum ( $x$ )
- Eliminate non-tangible consequences

# MANUFACTURING VS. SERVICE PROVIDER QUALITY CURVE // BENEFITS



## BENEFITS OF INVOLVING 3PQ SERVICE PROVIDERS

- Scope and KPIs are contractual obligations
- Resources are adjusted to the cost
- Cost is under control,
- Results are committed
- Methods and processes are custom-made
- Lean solution

# LEVELS OF QUALITY SERVICE PROVIDERS (3PQ) INTEGRATION

## LEVEL 1: Containment / Sorting / Rework

*Ad-hoc activities as comprehensive quality assurance*

## LEVEL 2: IQC

*Outsourced Incoming Quality Inspection*

## LEVEL 3: Integrated Control methods with high level technology

*On manufacturing line service*

- Testing and laboratory checks,
- CMM measurements,
- On line gauging,
- X-Ray,
- etc.

## LEVEL 4: SQA

*Outsourced Supplier Quality Assurance*

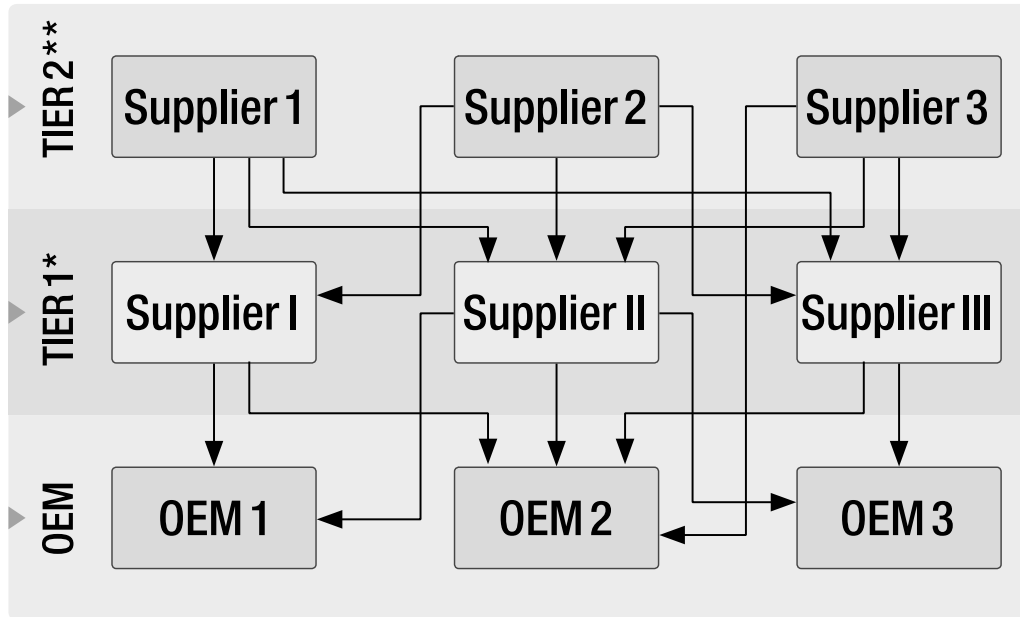
- Handling of Non-conform purchased parts,
- 8D Reporting follow-up,
- Supplier communication

## LEVEL 5: Supplier Quality Engineering and Development

*Comprehensive Supplier Quality and Development activities from advance- to current phase including all classical activities like APQP, PPAP, Run@Rate, Early Production Containment, Performance Monitoring, Supplier Auditing, PPM reduction activity, etc.*



# MULTI-LEVEL SUPPLY CHAIN



\*System Supplier/Integrator

\*\*Commodity Specialists

## PROPERTIES OF THE MULTI LEVEL SUPPLY CHAIN

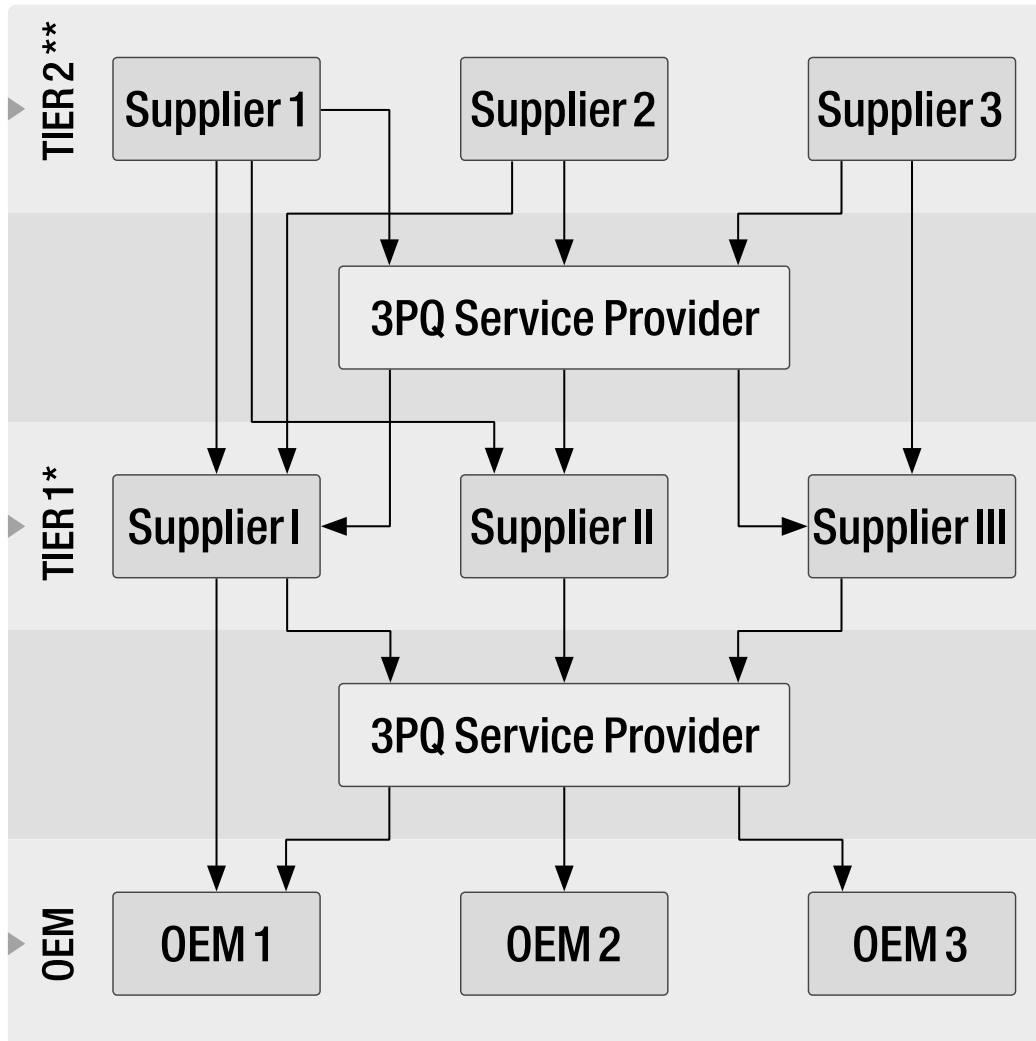
- Tier 1 companies are usually **integrators and system suppliers**
- Most of the system suppliers appear at each OEM's
- Tier 2 companies are usually **commodity specialists**
- Many commodity specialist suppliers appear at each Tier 2 supplier's

## REQUIREMENTS GLOBALIZATION VS. STANDARDIZATION

- Legislation
- Safety
- Material
- Quality standards
  - International: ISO/TS16949 vs. VDA 6.1
  - OEM-specific: Formel-Q, Q101, QIP/QSB, etc.



# INTEGRATED 3PQ SERVICE PROVIDERS IN THE MULTI-LEVEL SUPPLY (& VALUE) CHAINS



\*System Supplier/Integrator

\*\*Commodity Specialists

## BARRIERS

- Handling confidential issues (e.g.: R&D)
- Prioritization
- Lack of trust

## ADVANTAGES TO INTEGRATE 3PQ SERVICE PROVIDERS

- Various globalized requirements to transfer to global standards
- Eliminate redundancies and overlaps
- Increase utilizations in services
- Eliminate multiplications in requirements
- Eliminate multiplied resources (purchasing / supplier development)

➔ **SAVINGS**