CENTR "PRIORITET"

DESIGN OF QUALITY MANAGEMENT SYSTEMS IN VERTICALLY INTEGRATED STRUCTURES

Vadim Lapidus

General director
Doctor of Science

Budapest

SYSTEM APPROACH. "SYSTEM OF SYSTEMS". SYSTEM GENERATIONS. PRESUMPTION OF RESPONSIBILITY (PoR)

- **System approach** –
  assignment of roles, authorities, responsibilities through corporation.

- **System of systems** – recognition of autonomy, entirety of organization QMS and personnal responsibility of managers for their actions. Quality management from higher level organizations is done through:
  а) setting objectives to efficiency and maturity indicators;
  б) setting QMS requirements.

- **Classification of Quality Management Systems (QMS)** by generations of development and maturity levels.
- **Presumption of responsibility** – initial supposition, that workers understand and assume the responsibility for quality (personnally and collectively), or they are not required to work.

All are responsible for quality, but it can lead to none resposible for quality. System approach sets responsibility of all and everyone, differing collective and personnal responsibility.

SPECIFICS OF QUALITY MANAGEMENT SYSTEMS IN VERTICALLY INTEGRATED STRUCTURES (HOLDING COMPANIES)

1. **Creating quality management systems** at all levels of a vertically integrated structure: corporate, divisional, level of organizations, included in divisions and participating in LC (supplier companies).
2. **Development of quality management systems** at every level of a vertically integrated structure, as the main instrument for quality task solutions.
3. **Assignment of responsibility and authority** in quality questions at company levels and LC processes.
4. **Integration of QMS, production systems, financial management.**
5. **Setting QMS efficiency indicators** and creating a system for management of quality, setting objectives, tasks, responsibility through all levels: corporate, divisional, level of organizations, included in divisions and participating in LC.
6. **Deployment of corporate quality management system** through LC processes. System of quality guarantees for interested parties.
7. **Creating CQMS, considering law aspects**: contracts, corporate, administrative law.

Main task – to create a vertically and horizontally integrated quality management system, comprising four management levels: corporation, divisions, organizations and suppliers. At each level it is necessary to indetify objectives, tasks, systems and set their relations

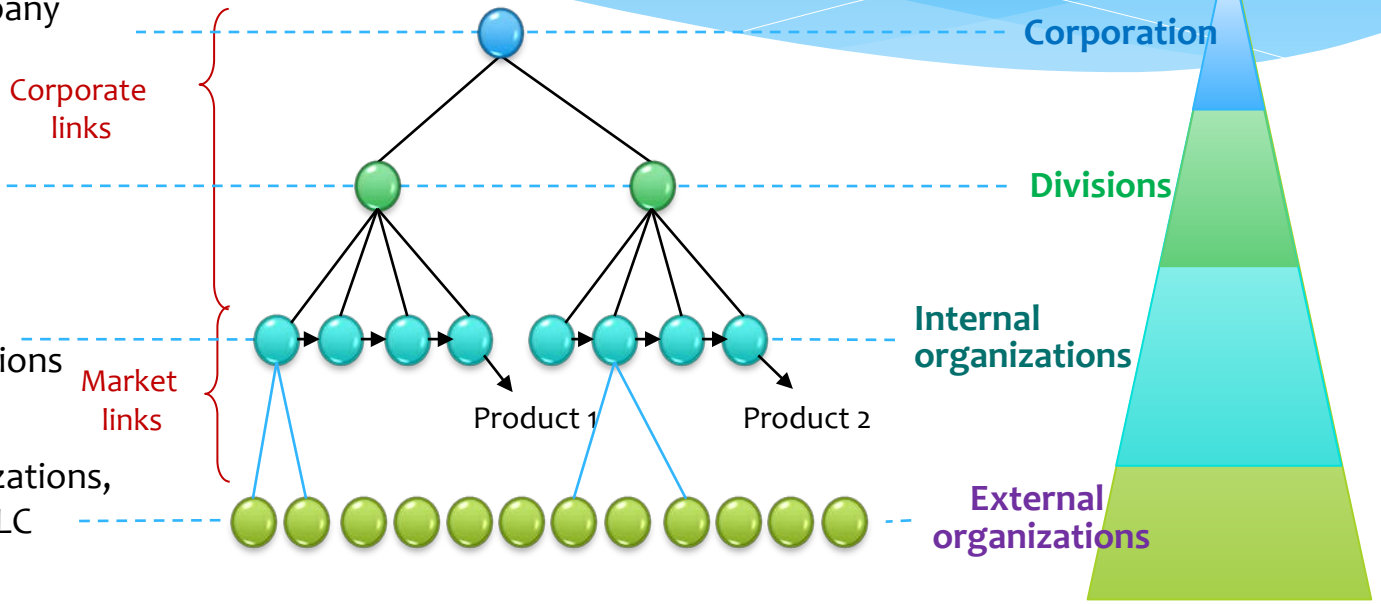
INTEGRATION STRUCTURE

Managing company (corporation)

Divisions

Organizations, included in divisions

External organizations, participating in LC (suppliers)



Supplier organzations can be affiliated non-autonomous (ANO) or autonomous companies

Corporate and market links are used when integrating management in vertically integrated structures

PROBLEMS
OF ORGANIZATION QUALITY MANAGEMENT SYSTEMS

1. All organization quality management systems are certified, but all systems are different and no one knows their features.

   Who and how should manage QMS, even if they are certified?

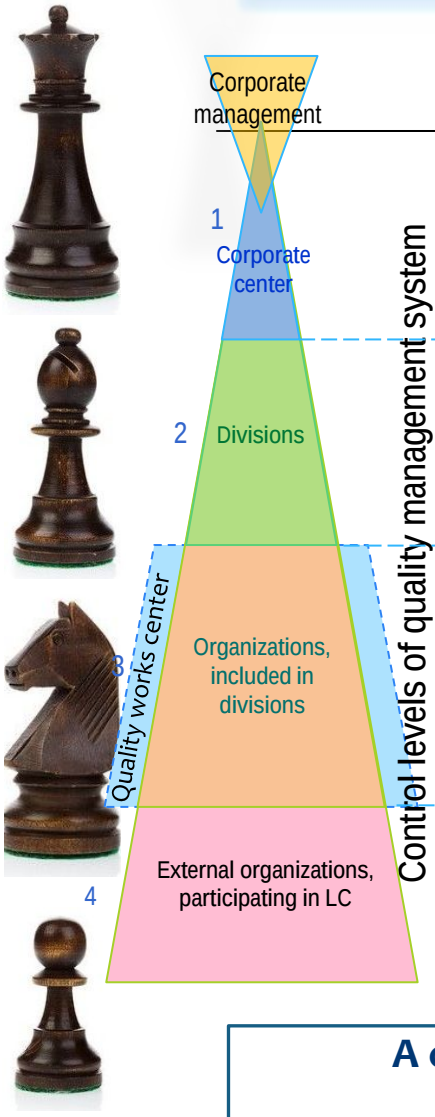
   Certification is only the beginning of quality works, and not the end.

2. What is a quality management system of an organization?
   Can managers of high integrated structures interfere its (QMS) work?

   Quality management system of organization – autonomous system or not?

Certification of quality management systems is often the final task in quality, and getting a certificate limits further QMS development

DISTRIBUTING TASKS BY LEVELS
HOLDING – DIVISION – COMPANY – SUPPLIERS



Quality management system	Main role in the system	Aim	Object of management
CQMS corporate QMS	Creating quality management infrastructure, that combines quality policy infrastructure and quality information infrastructure, as well as resources for their development.	Brand quality	Infrastructure of quality police, culture, information
DQMS divisional QMS	Management of QMSO efficiency and maturity: objectives for QMSO, as well as programs of transformation to new qenerations of quality management systems.	QSMO efficiency	QMSO as an entire autonomous system
QMSO QMS of organizations, included in divisions	Product quality management through QMS. Achievement of objectives by indicators (KPI) of QMSO efficiency.	Product quality. QMSO objectives	Processes, systems of processes
QMS QMS of external organizations, participating in LC	Delivery quality management. Realization of objectives and requirements of CQMS and DQMS.	Delivery quality	Delivery quality requirements, acceptance, audits, certification

A certain quality management system is used at every control level, that considers the use of its availiable control measures

CORPORATE LEVEL: BRAND QUALITY, QUALITY MANAGEMENT INFRASTRUCTURE

QUALITY MANAGEMENT INFRASTRUCTURE

Quality policy infrastructure (objectives, requirements, indicators, norms) **vertical**

Infrastructure of corporate quality culture (codes)

Quality information infrastructure (information, knowledge, assessments, certification, audit) **diagonal – serves vertical and horizontal**

- Annual corporation quality policy;
- Standards and requirements of QMS;
- QMS manuals;
- QMS efficiency assessment manuals;
- Methods of setting QMS efficiency indicators;
- Standards of QMS development generation models and maturity levels assessment;
- Norms for quality indicators, indices, metrics;
- Methodics of quality monitoring;
- Methodics of quality analysis;
- Program of joint development of QMS and production systems.

- Consulting in quality and production systems;
- QMS audit;
- Certification (body approval);
- Assessment of QMS maturity levels;
- Personnel training programs in quality management;
- Risk assessment system of nonfulfillment of requirements (system of quality guarantees).

Quality management infrastructure at corporate level combines quality policy infrastructure and QMS activity assessment infrastructure

CORPORATE LEVEL: QUALITY POLICY INFRASTRUCTURE

Corporate quality policy

Requirements standards
- Requirements standards of QMSO and QMS

Indicators (metrics)
- Standards of QMS development generation models and maturity levels assessment

Target figures
- Norms of quality indicators, indices, metrics

Monitoring of indicators

System creation manuals
- QMS manuals;
- QMSO efficiency assessment manuals;
- Methodics for setting QMSO efficiency indicators

Program of development
- Program of joint development of QMS and Lean.

Quality policy infrastructure combines requirements standards, QMS creation manuals, target figures, audits and system assessments, development indicators, as well as development programs

CORPORATE LEVEL: infrastructure of corporate quality culture

Infrastructure of corporate quality culture

Codes, setting principles, values, including:

- norms,
- ideals,
- taboos

Main thesis of positive quality culture:

- **Quality is a value, not a problem**
- **Information about problems is a value, not a guilt**
- **Quality is a measure of relations between people**

Infrastructure of corporate quality culture forms codes, setting principles and values, treating quality as a value

CORPORATE LEVEL: quality information infrastructure

Information infrastructure

INFORMATION about quality at all levels

- Testing and control data;
- Reference data;
- Information about components;
- Information about materials;
- Operation data;
- Claims data;
- Lists of approved suppliers;
- Lists of accredited certification bodies;
- …

ASSESSMENTS

- Product acceptance assessment;
- Results of product, process, system assessments;
- Results ratings;
- Certification of systems, products, processes, personnel;
- Competence assessment of organization personnel;
- System of quality guarantees.

KNOWLEDGE

- Trainings;
- Seminars;
- Consulting;
- Application of best practices;
- Training programs:
  - Remote acting,
  - Lecturer led,
  - At workplace;
- Training materials at various multimedia;
- Methods and instruments of quality management.

Quality information infrastructure combines information about QMS activity assessment at all levels, as well as information about personnel acquired knowldge during trainings, seminars and consulting

CORPORATE LEVEL: resource management for infrastructure development

QUALITY MANAGEMENT INFRASTRUCTURE

Quality policy infrastructure (objectives, requirements, indicators, norms) **vertical**

Infrastructure of corporate quality culture (codes)

Quality information infrastructure (consulting, certification, audit) **diagonal – serves for vertical and horizontal**

Resources for quality policy infrastructure, (incl., development program)

Resources for corporate quality culture infrastructure

Resources for quality information infrastructure, (by directions)

Resources for development of quality management infrastructure

Resources, directed to the development of quality policy infrastructure, corporate culture and quality information infrastructure, are emphasized at corporate level

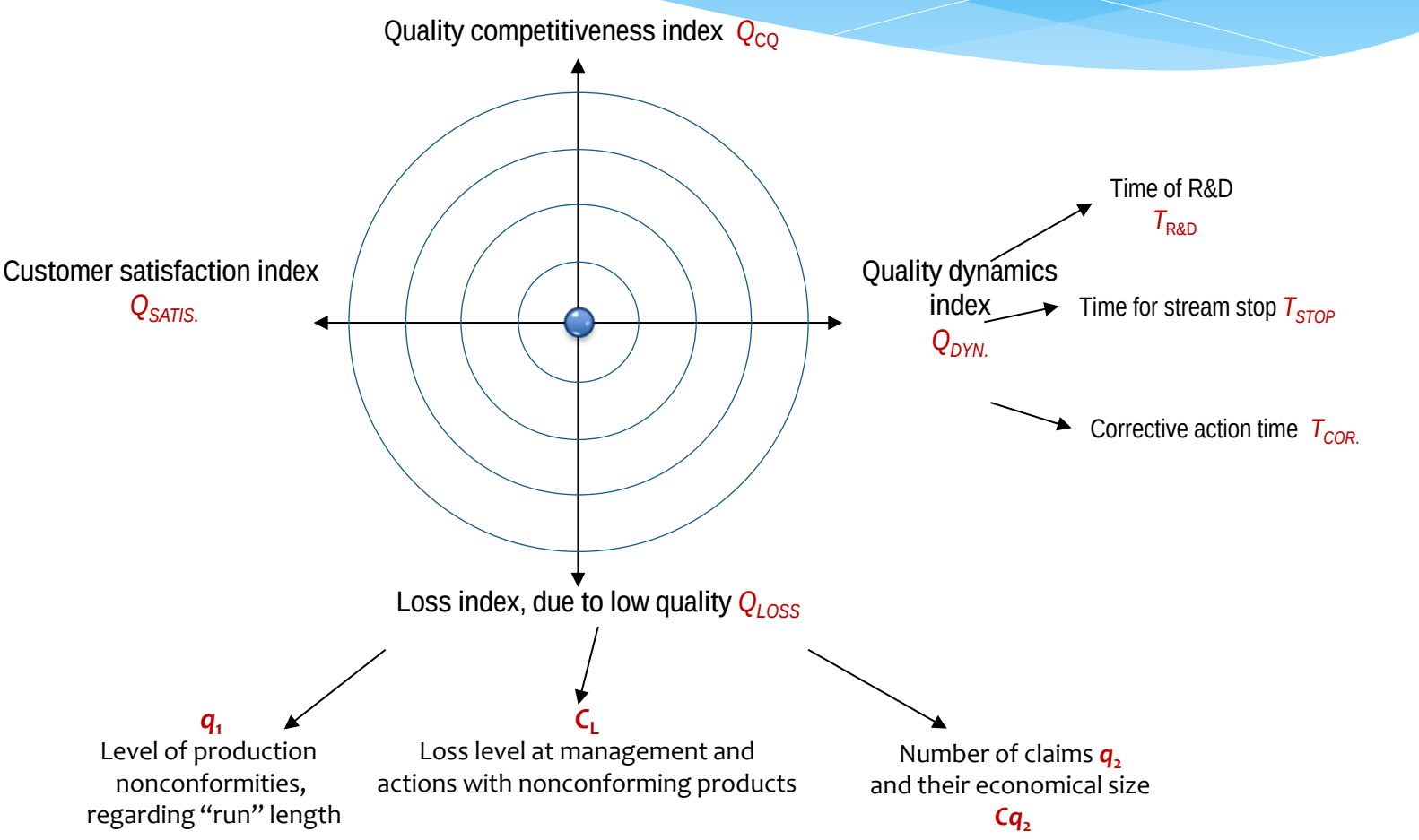
DIVISIONS' LEVEL

Quality management at the level of divisions

- Setting QMS efficiency and maturity objectives of organization, included in division (QMSO).
- Creating program for QMSO development.
- Creating program for personnel training.
- Assessing achievement of objectives by organizations (companies) on the basis of self-assessment.
- Control of realiability of report information about quality and objectives achieved.
- Motivation to achieve quality objectives.

Divisions set objectives, assess level of their achievement, control realiability of report information and create a motivation system.

INDICES AND INDICATORS. QUALITY DYNAMICS



Effectiveness management of organization QMS is done on the basis of complex targeted approcah with quality indices and indicators

ORGANIZATION LEVEL




Organizations:

- Create, develop and improve their QMSO on the basis of standards and manuals requirements, applied in corporation, as well as objectives, set by divisions for QMSO efficiency indicators;
- Conduct process system management according to QMSO;
- Achieve objectives in QMSO efficiency and maturity;
- Report on the level of objectives achievement and corrective actions, implemented when objectives are not achieved;
- Are responsible for realiability and accuracy of initial information about achieved indicator data;
- Support quality guarantees for product and QMSO characteristics.

Organizations manage quality through QMSO, fulfilling customer requirements to product quality, deadlines and delivery, as well as divisions' requirements to QMSO development

THANK YOU FOR ATTENTION!

CONSULTING GROUP "PRIORITET"

International Quality Award of CEEC LAUREATE·2011

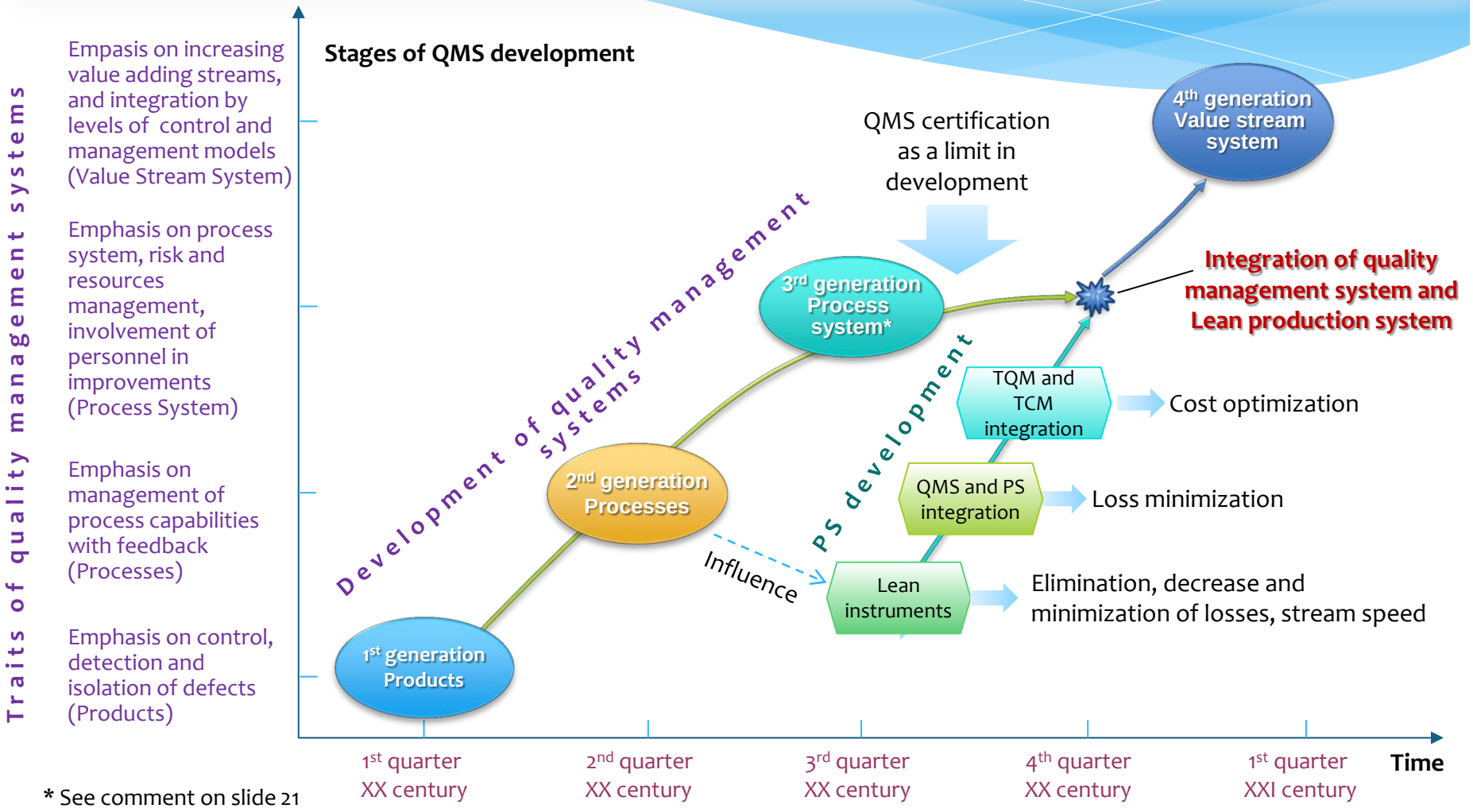
Laureate of the 7th International Quality Tournament of the Central and Eastern European Countries in the nomination "Small and Medium Enterprises"

Vadim Lapidus

General director
Doctor of Science

ANNEX

INTEGRATION OF QUALITY MANAGEMENT SYSTEM AND PRODUCTION SYSTEM



* See comment on slide 21

Integration of quality management system development and production system development gives synergetic effect and helps to achieve integration at control levels and management models