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QUALITY MANAGEMENT

***“Approaches to Quality –
The Certification Scenario”
Introductory Lecture***

LIUC - Castellanza

February - May 2001

CERTIFICATION: UPTAKE AND STANDARDS

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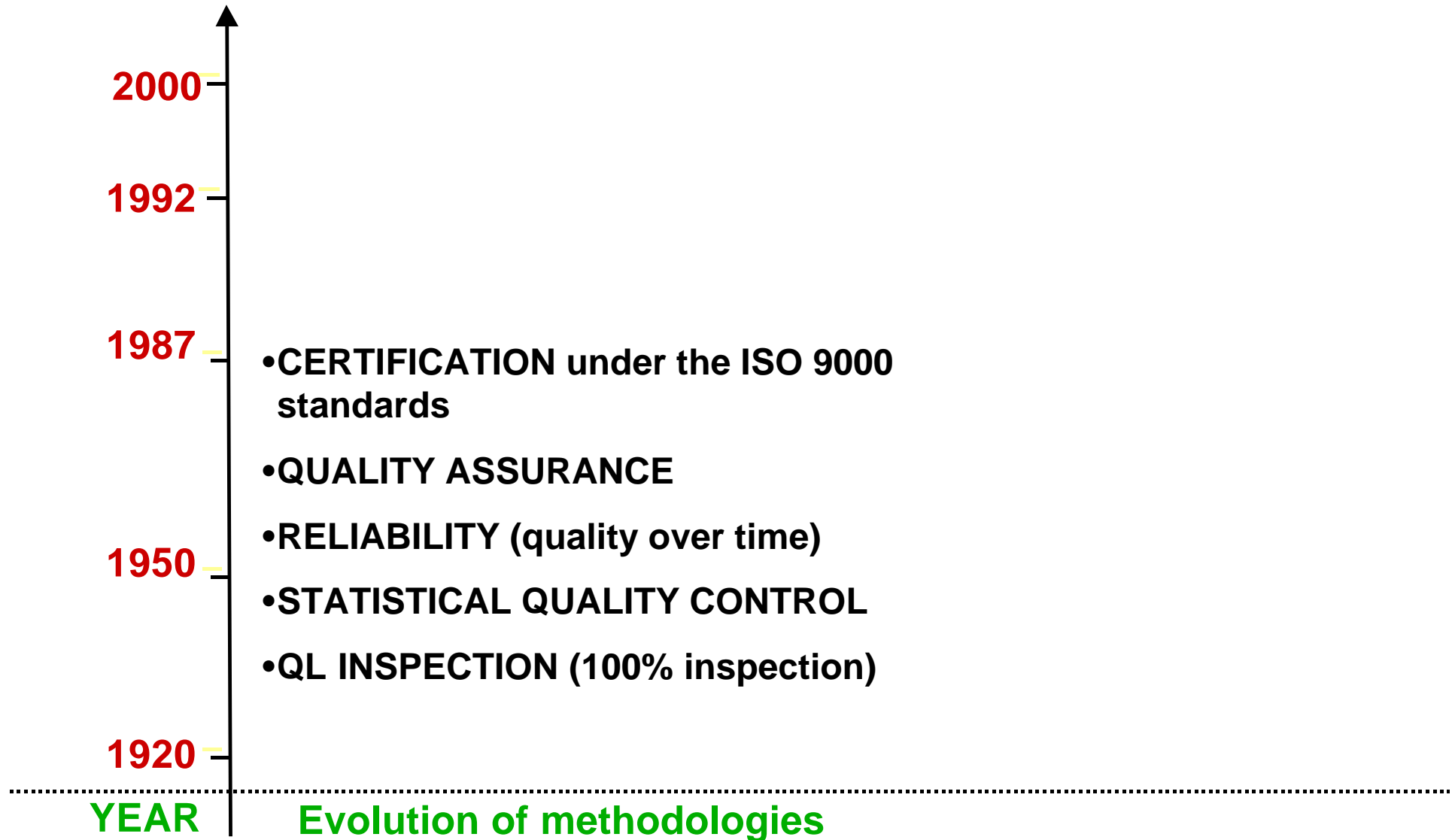
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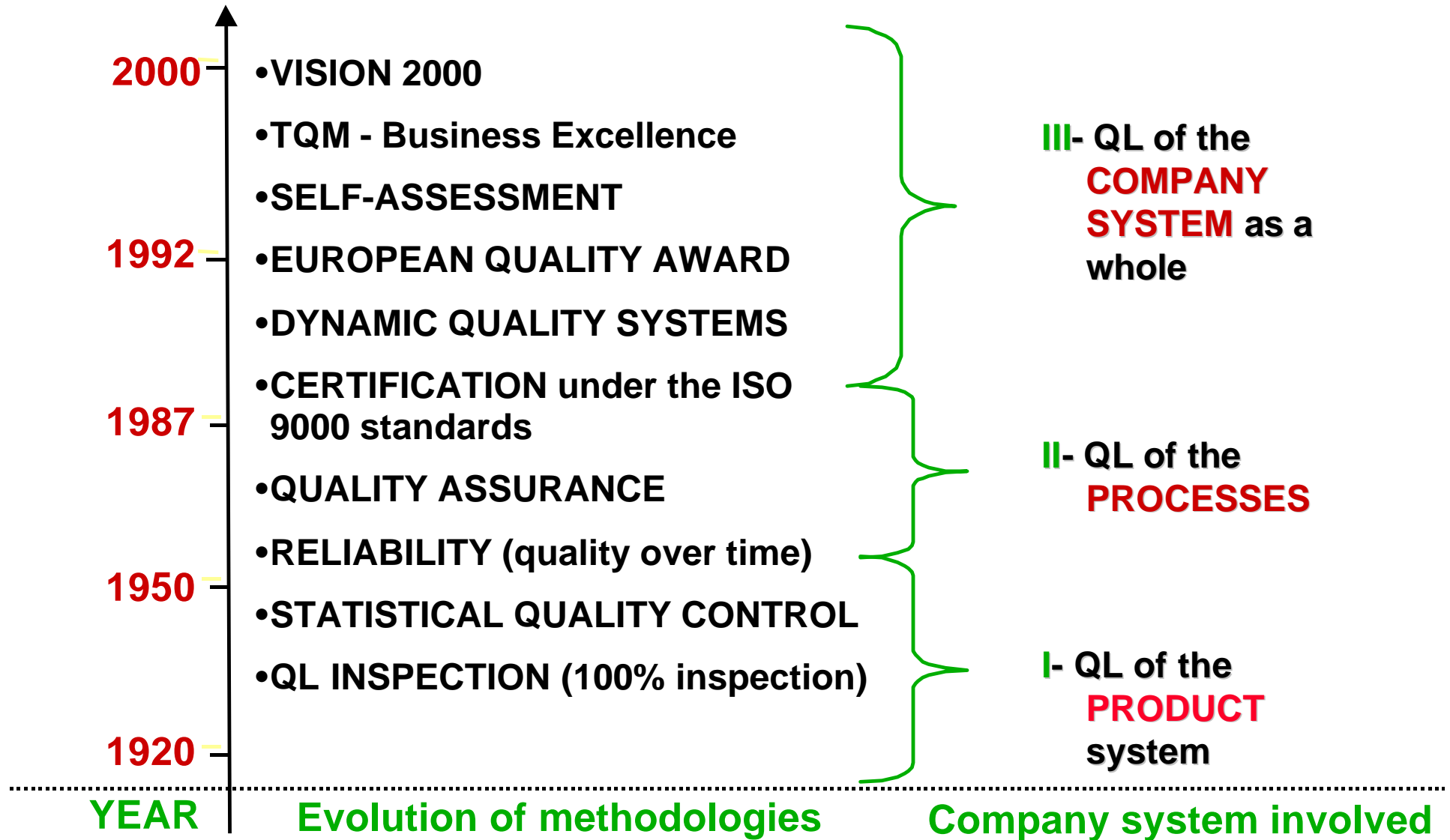
EVOLUTION OF METHODOLOGIES: a reference timeline



The pathway of western companies

M. G. Conca 1996 -2001

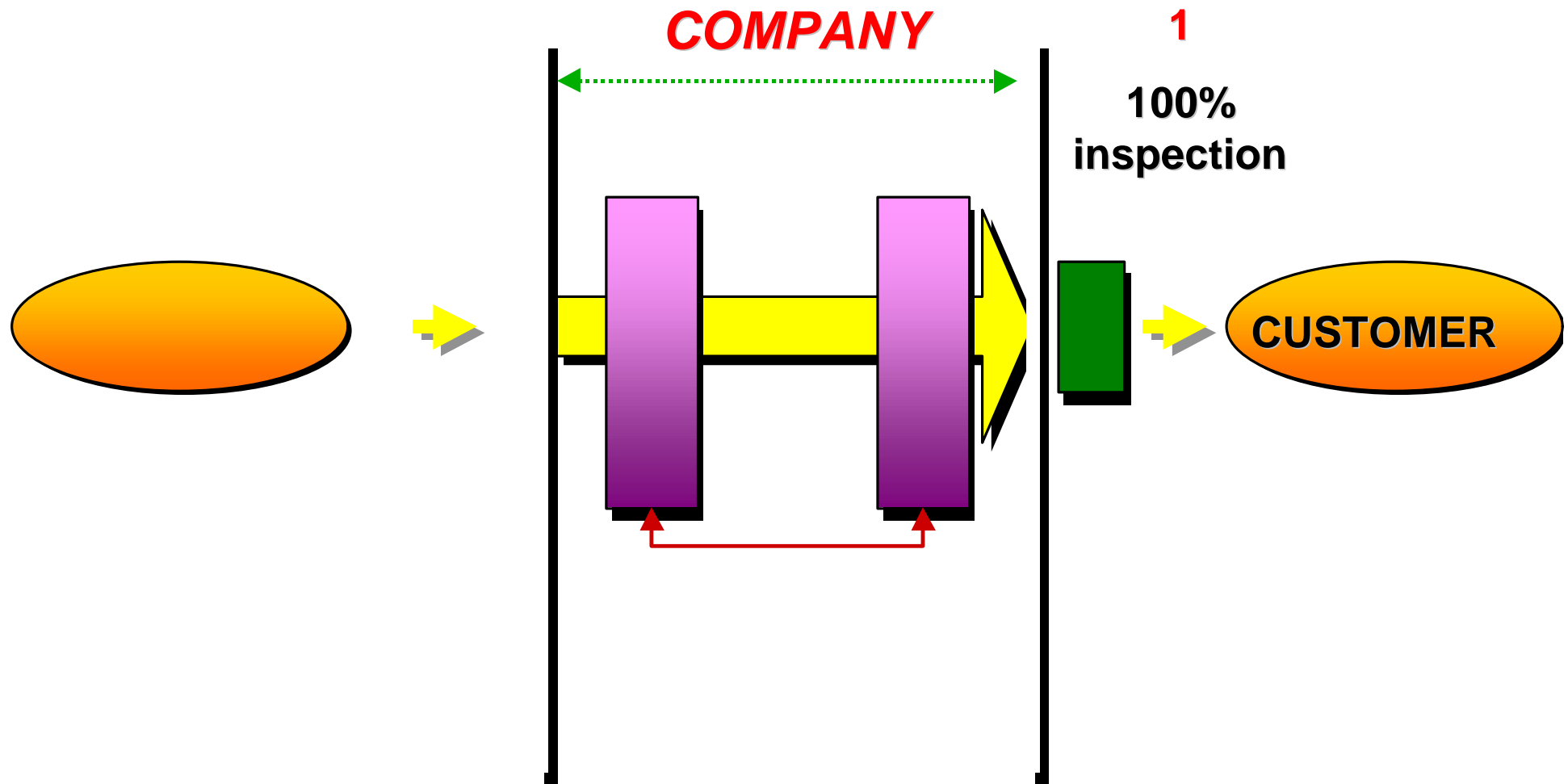
EVOLUTION OF METHODOLOGIES: a reference timeline



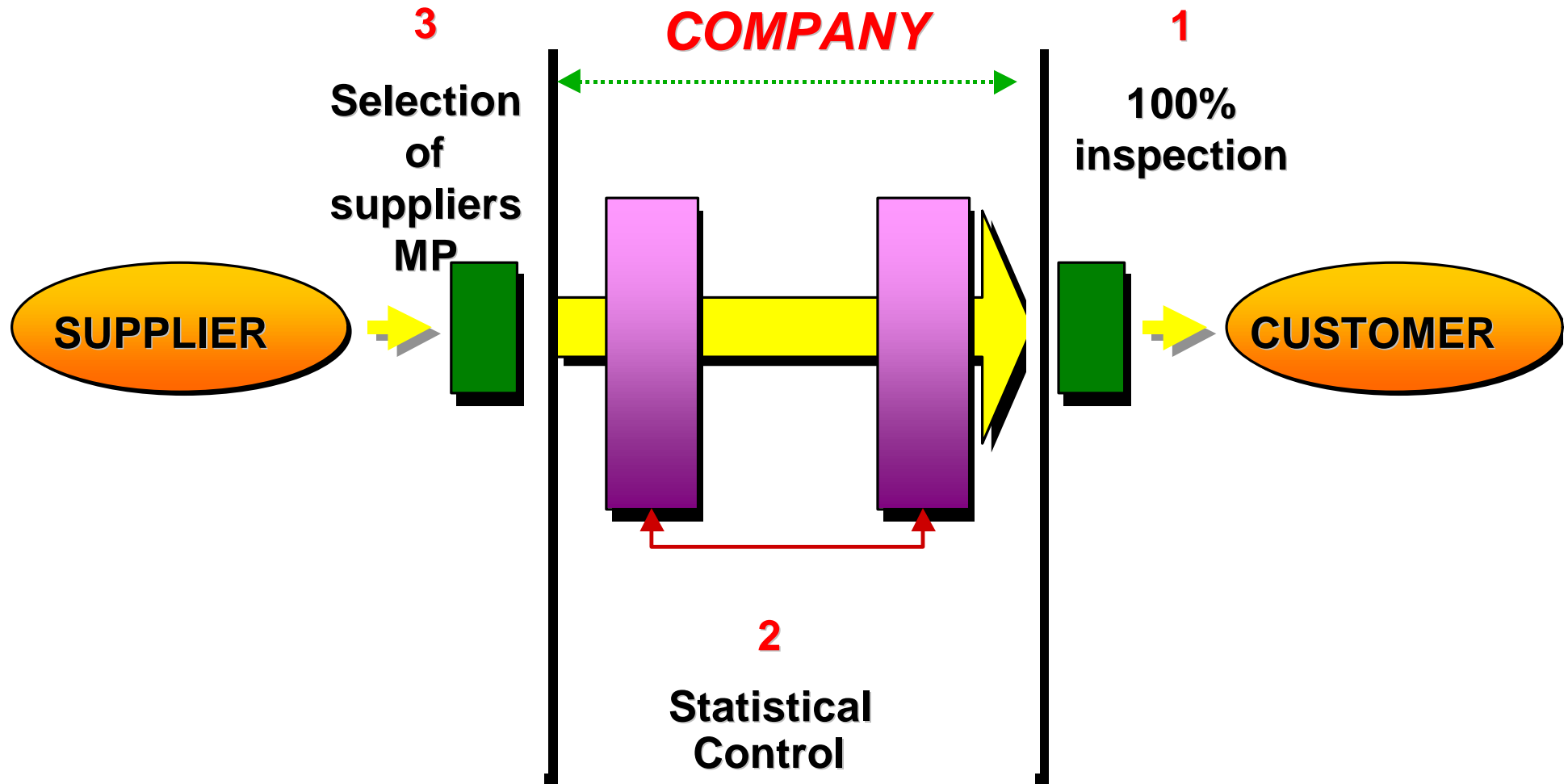
The pathway of western companies

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QUALITY, THE CUSTOMER AND THE SUPPLIER



QUALITY, THE CUSTOMER AND THE SUPPLIER



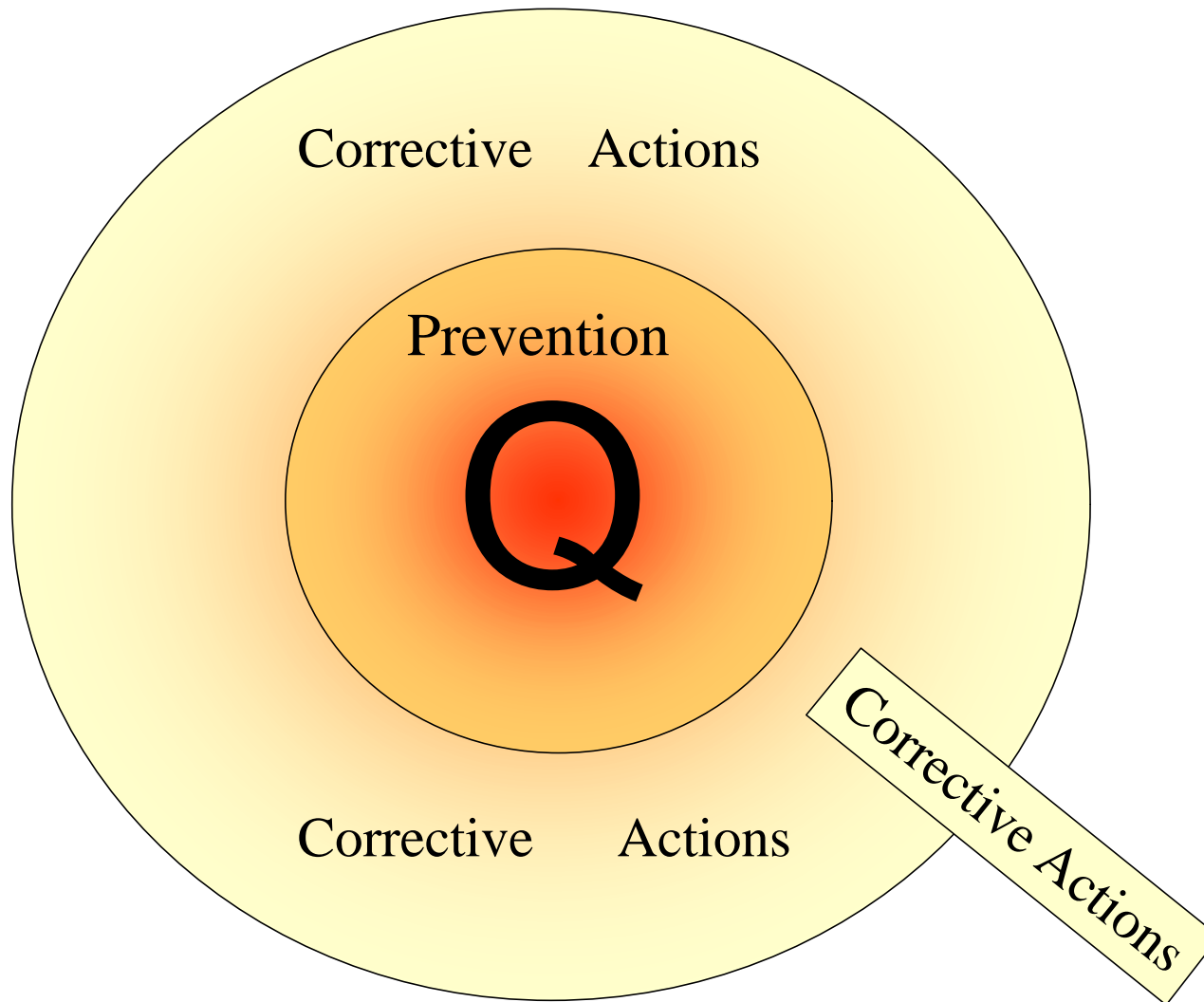
THE QUALITY “GURUS”

- **DEMING:** The *statistical approach*, the role of *leadership*, the Deming cycle (P,D,C,A)
- **JURAN:** The pragmatic - gradual approach, control, *planning*, *improvement*
- **FEIGENBAUM:** “TQC” (Total Quality Control)
- **CROSBY:** Quality as an *investment* which produces profits, and not as a cost; “Quality is free”;
- **ISHIKAWA:** “Company Wide Quality Control”, Quality Clubs

QUALITY PRINCIPLES IN SMEs



ESSENCE OF QUALITY



WHAT PREVENTION MEANS

1. WELL DEFINED SPECIFICATIONS FOR EVERY ACTIVITY

INSTEAD OF

CHASING AFTER ANOMALOUS AND ILL-DEFINED SITUATIONS

2. DETERMINING THE CAUSES OF ERROR AND ELIMINATING THEM FOR GOOD

INSTEAD OF

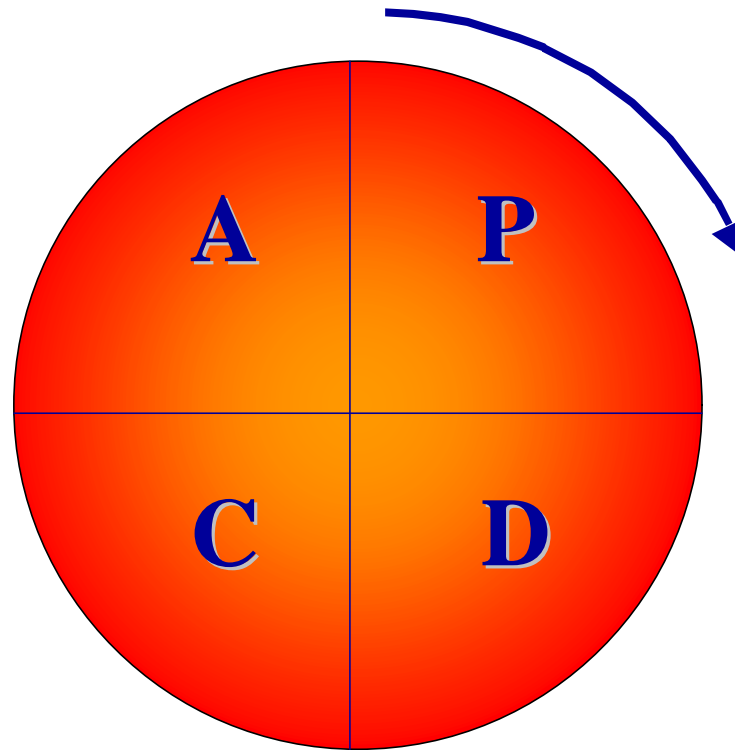
CHECKING AND DETECTING INDEFINITELY

3. DO IT RIGHT FIRST TIME

INSTEAD OF

REDOING AT HIGHER COST

THE DEMING CYCLE



P = **PLAN**

D = **DO**

C = **CHECK**

A = **ACT**

PLAN thoroughly before acting

IMPLEMENT the devised plan

ASSESS whether the outcome is positive

STANDARDISE if the outcome was positive

THE STEPS OF THE DEMING CYCLE

➤ **PLAN:**

- describe the real process
- identify customer expectations
- identify the characteristics of the suppliers
- create the measurement system
- data collection, organisation and analysis
- analysis of problems and identification of the underlying causes
- devise actions for improvement
- assessment of priorities (cost-benefit analysis)

➤ **DO:**

- approval of projects and implementation within a restricted sphere (possible trial)

➤ **CHECK:**

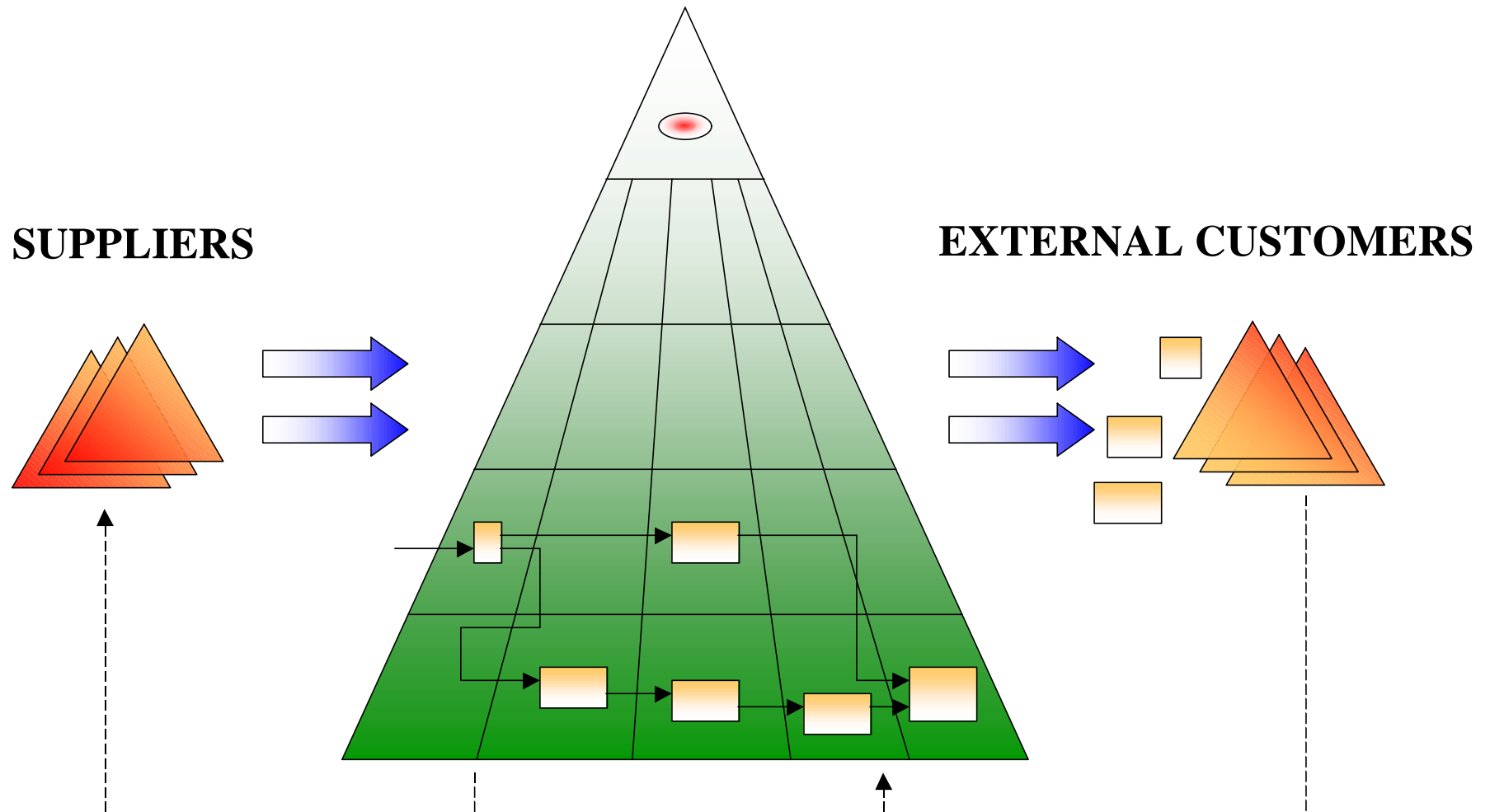
- assess the results of the corrective actions

➤ **ACT:**

- global and definitive implementation of corrective actions
- verify customer satisfaction and initiate a new improvement cycle

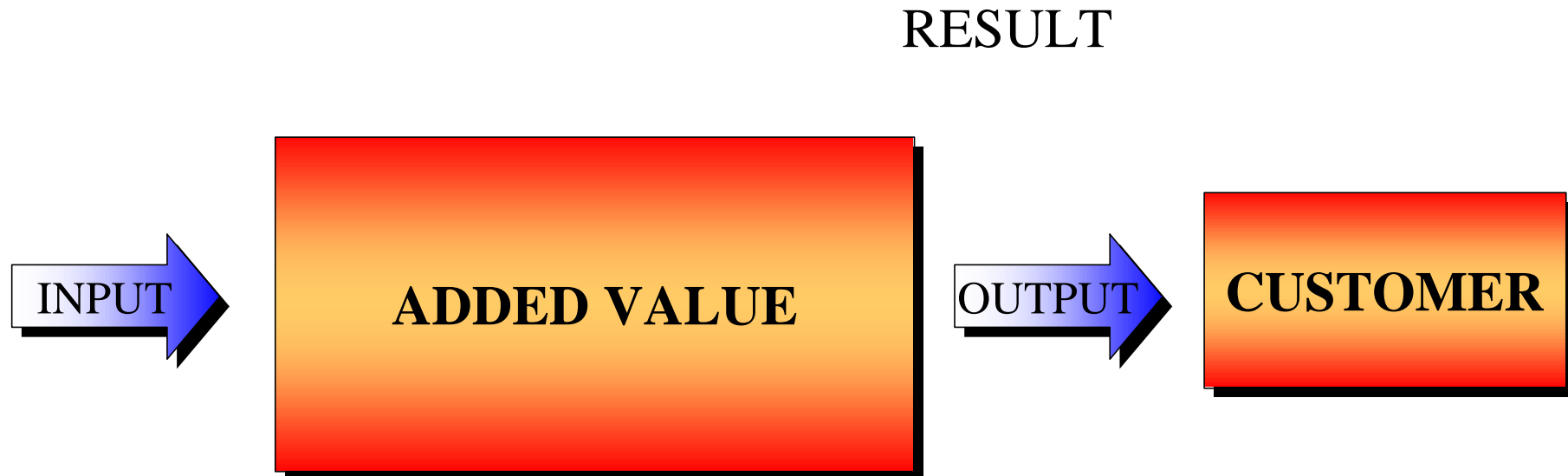
THE EXTERNAL CUSTOMER AND THE INTERNAL CUSTOMER

COMPANY



Source: T. Conti, *How to build Total Quality*, III ed., Sperling & Kupfer Editori, Milano, 1992

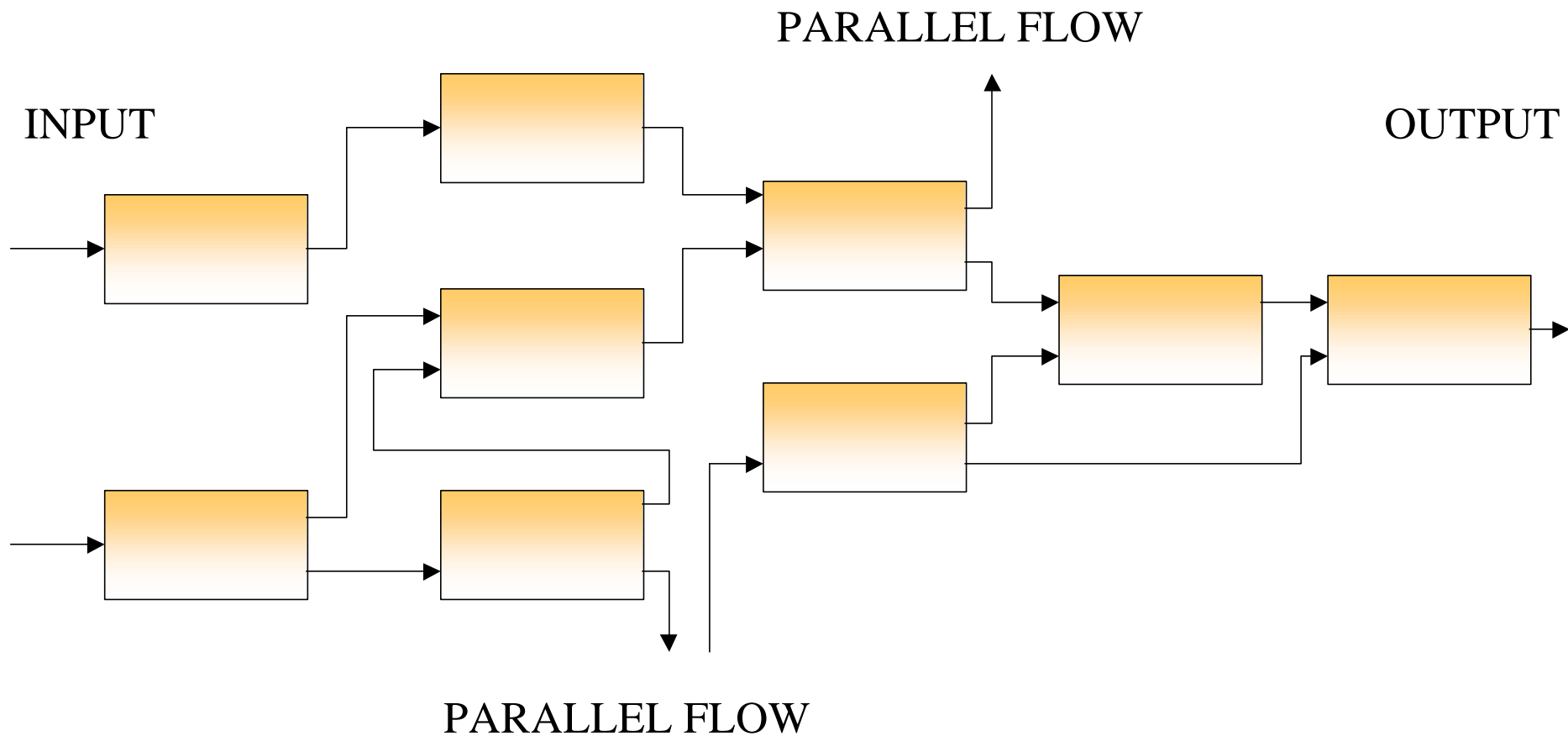
THE PROCESS AS A LINK IN THE VALUE CHAIN



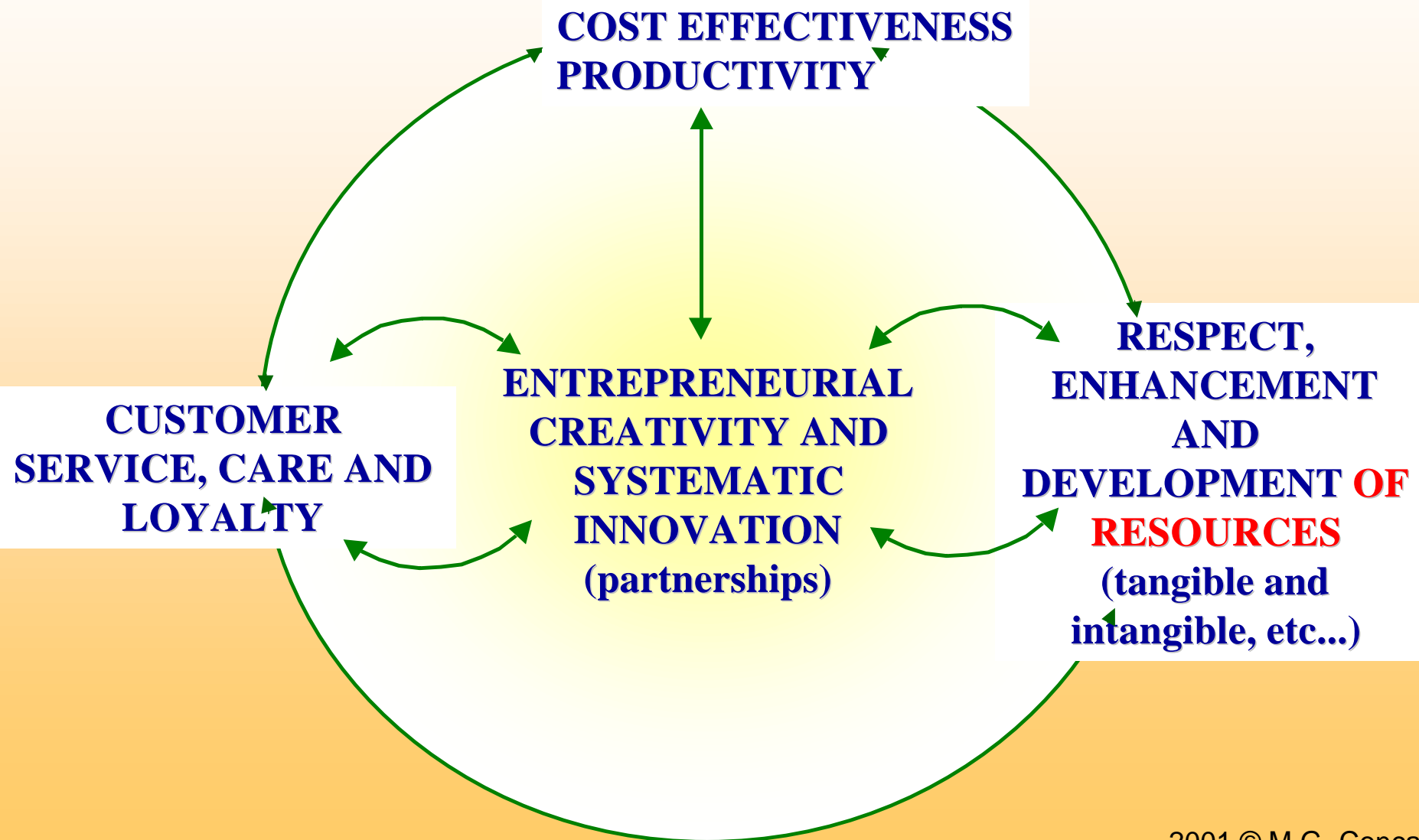
-a sequence of actions, each with added value, which starting from a certain number of inputs, produce the desired outputs. (EFQM, 1994)

-a set of interrelated activities which produce a result that has added value for the customer.(Hammer, Champy, 1993)

THE COMPANY AS A FLOW OF PROCESSES

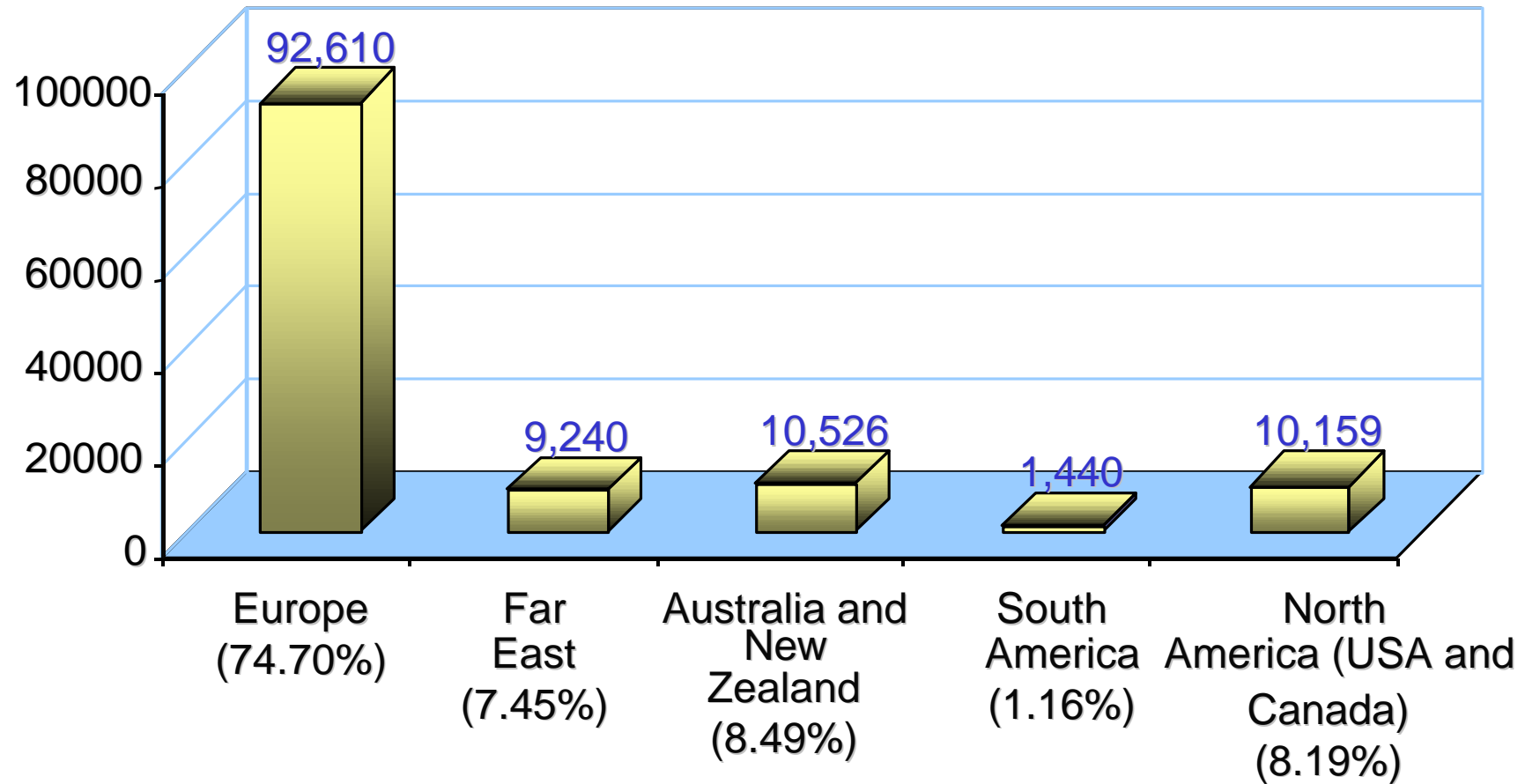


FUNCTIONAL VALUES FOR THE DEVELOPMENT OF COMPANIES ENGAGING IN E-BUSINESS



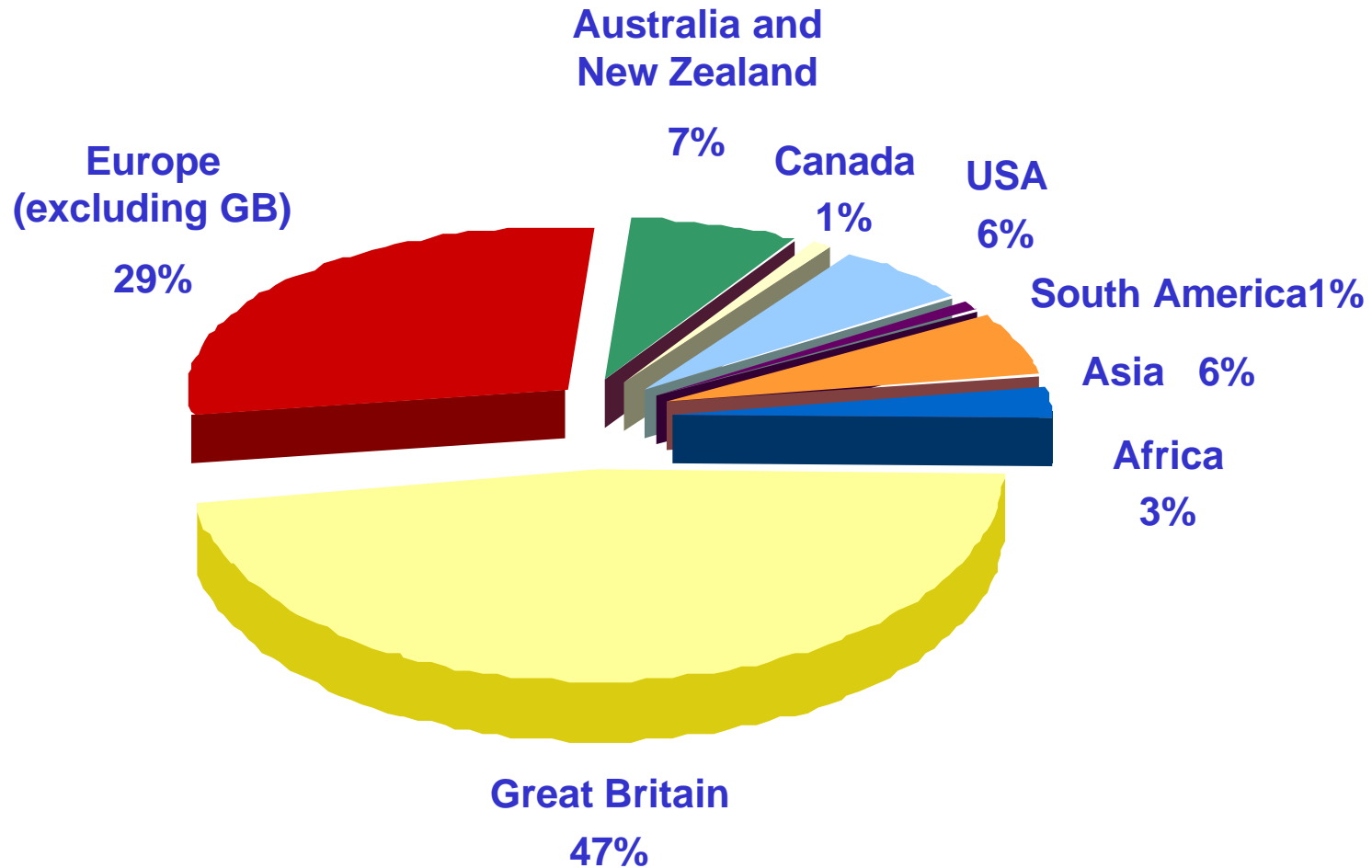
THE UPTAKE OF CERTIFICATION

Comparison by geographical area



Source: *Il Sole 24 ore*, December 1995 data

THE UPTAKE OF CERTIFICATION (continued)



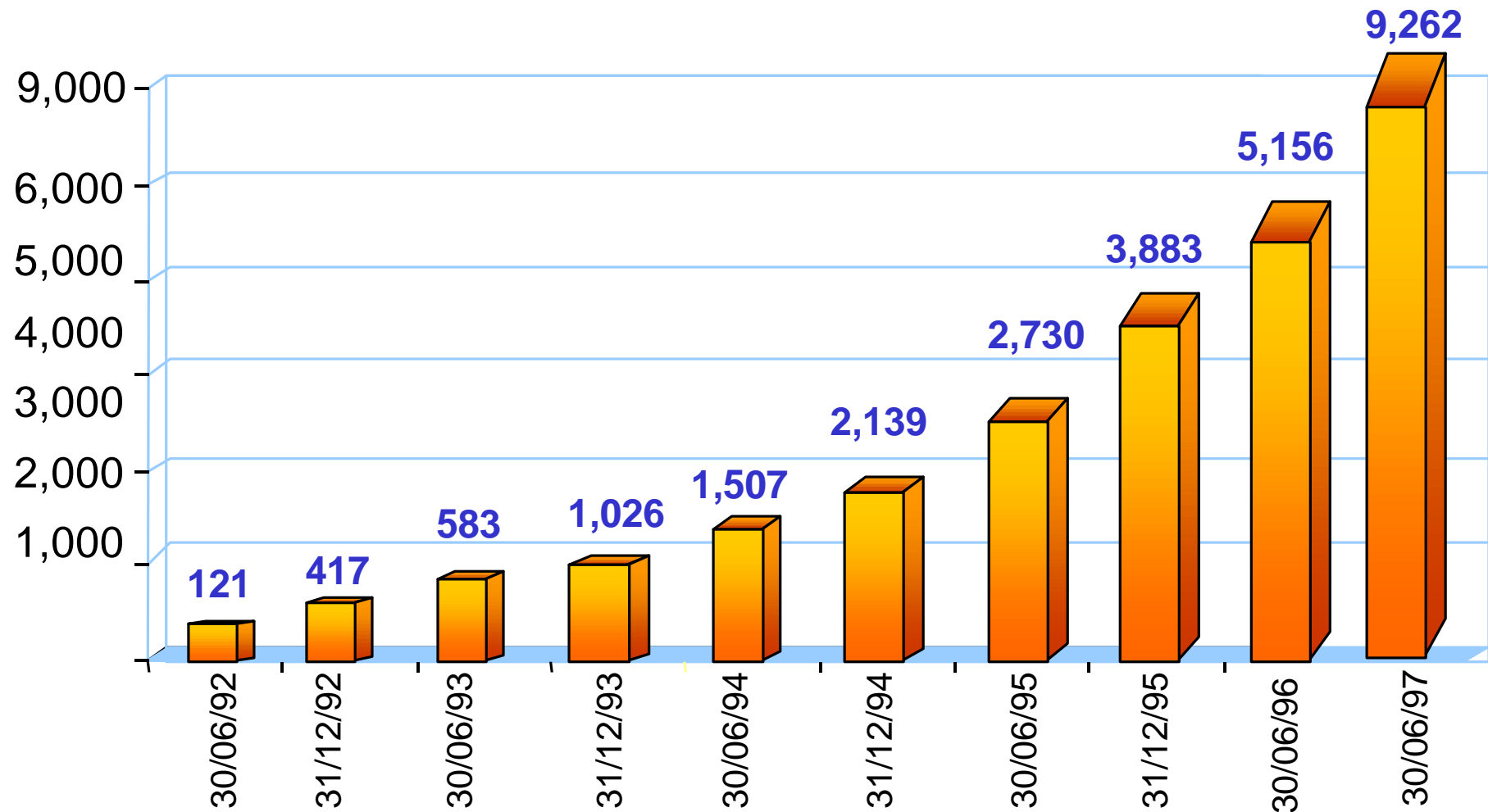
Source: ISO 9000 News June 1995

NUMBER OF CERTIFICATIONS IN THE WORLD

N°	Country	No. of Certifications
1	Great Britain	44,107
2	USA	5,954
3	Germany	5,875
4	Australia	5,299
5	France	4,277
6	Holland	4,198
7	Italy*	3,146
8	Japan	1,827
9	South Africa	1,627
10	Switzerland	1,520
11	Ireland	1,410
12	Canada	1,290
13	Belgium	1,226
14	Denmark	1,183
15	New Zealand	1,180
16	Taiwan	1,060

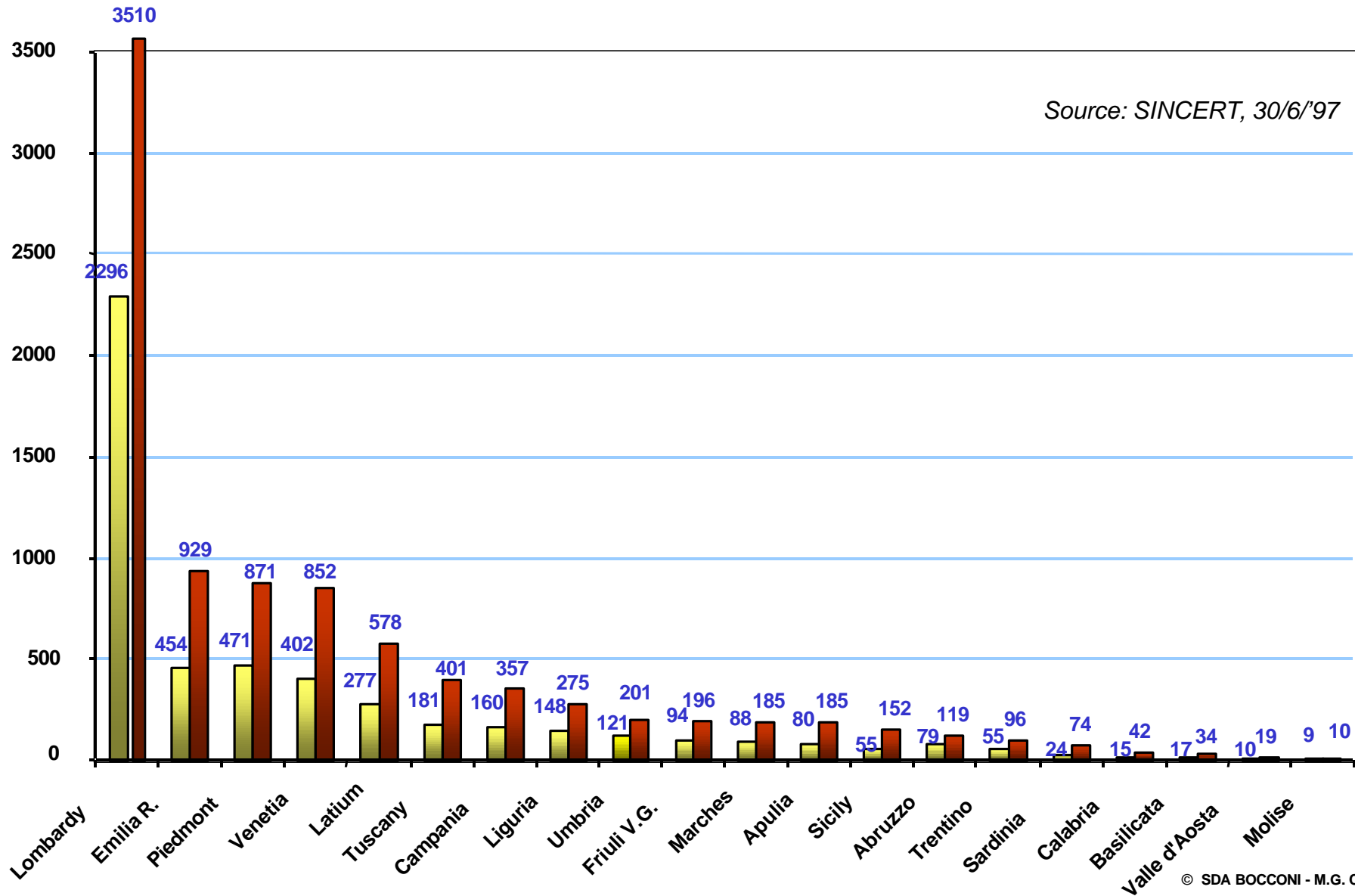
Source: ISO 9000 News June 1995, updated to 31/3/95 *2730 by SINCERT accredited registrars

GROWTH OF CERTIFIED COMPANIES IN ITALY



Source: SINCERT, data updated to 30/6/97

NUMBER OF SINCERT-CERTIFIED COMPANIES



CERTIFIED COMPANIES IN ITALY BY REGION

Region	Data'96	Data '97	Var%
Abruzzo	79	119	51%
Basilicata	17	34	100%
Calabria	15	42	180%
Campania	160	357	123%
Emilia	454	929	105%
Friuli	94	196	108%
Latium	277	578	109%
Liguria	148	275	46%
Lombardy	2296	3510	53%
Marches	88	185	110%
Molise	9	10	11%
Piedmont	471	871	85%
Apulia	80	185	131%
Sardinia	24	74	67%
Sicily	55	152	176%
Tuscany	181	401	122%
Trentino	55	96	74%
Umbria	121	201	66%
Valle d'Aosta	10	19	90%
Venetia	402	852	112%

Source: SINCERT, 30/6/'97

ISO - TERMS AND DEFINITIONS

WHAT IS ISO?

- **International standardisation organisation**
- **Set up in 1947 by approximately 90 members**

PURPOSE AND SCOPE OF APPLICATION OF THE ISO 8402 STANDARD

- **Defines the basic quality-related terms applied to products and services for the drafting and implementation of standards for company quality systems.**

ISO STANDARDS AND GUIDELINES

STANDARDS:

ISO 9001, 9002 and 9003 - **Documents applicable to Warranty Situations, “contractual” quality for different levels and areas of the organisation.**

GUIDELINES:

ISO 8402 - **Terminology;**

ISO 9000-1 - **General introductory document;**

ISO 9004-1 - **Guidelines for managing company quality system elements (internal use);**

ISO 9004-2 - **Guidelines for service activities**

THE ISO 9000 STANDARDS: MODELS FOR QUALITY ASSURANCE

- ISO 9001: 1994¹** Quality systems - Model for quality assurance in *design, development, production, installation and servicing.*
- ISO 9002: 1994²** Quality systems - Model for quality assurance in *production, installation and servicing.*
- ISO 9003: 1994³** Quality systems - Model for quality assurance in *final inspection and testing.*

1 - Revision ISO 9001: 1987

2 - Revision ISO 9002: 1987

3 - Revision ISO 9003: 1987

THE QUALITY SYSTEM 3.6

The organisational structure, the procedures, the processes and resources necessary for implementing quality management

Note(1): the quality system should only include those elements which are necessary for achieving the quality goals.

Note(2): ***an organisation's quality system must be designed chiefly to meet the internal needs of the organisation at the management level.*** It is broader in scope than the requirements, which may interest a particular customer who only evaluates the part of the quality system that is relevant to him.

Note(3): it may be necessary to demonstrate the implementation of specific parts of the quality system for the purposes of contractual or mandatory quality assessment.