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ISO/IEC 15288

The System Life Cycle Process
standard for the 21st century

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- This presentation was developed by delegates to ISO/IEC JTC 1/SC 7/WG 7 *Life cycle management* for the purposes of raising awareness about, and promoting the use of ISO/IEC 15288.
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Agenda

- Background
- History
- ISO/IEC 15288 overview
- Benefits

Background

Why ISO/IEC 15288 was developed

- Large International Market for systems engineering services and related products
- Need for a common process framework
- In 1994 no systems engineering standard addressed hardware and software in a concurrent and integrated fashion.
- Conventional engineering and software engineering were marching along their separate ways, particularly in the areas of terminology, design representation, and measurement
- Systems engineering itself was not fully integrated.

History of ISO/IEC 15288

- Initial planning started in 1994
- Scheduled to be published August 2002
- Resolved over 3,800 comments that encompassed 10 revisions of this document
- Participation of 18+ countries with over 40 technical experts
- Cost USD 8 million (estimated)

ISO/IEC 15288 scope

- ISO/IEC 15288 establishes a common framework for describing the life cycle of systems created by humans. It defines a set of processes and associated terminology. These processes can be applied at any level in the hierarchy of a system's development.
- ISO/IEC 15288 concerns those systems that are man-made and may be configured with one or more of the following: hardware, software, humans, or processes.

Applicability of ISO/IEC 15288

- Key business domains
 - Aerospace
 - Telecommunications
 - Transportation systems
 - Military systems
 - Ship building
 - Finance and Administrative systems
 - Information Technology systems

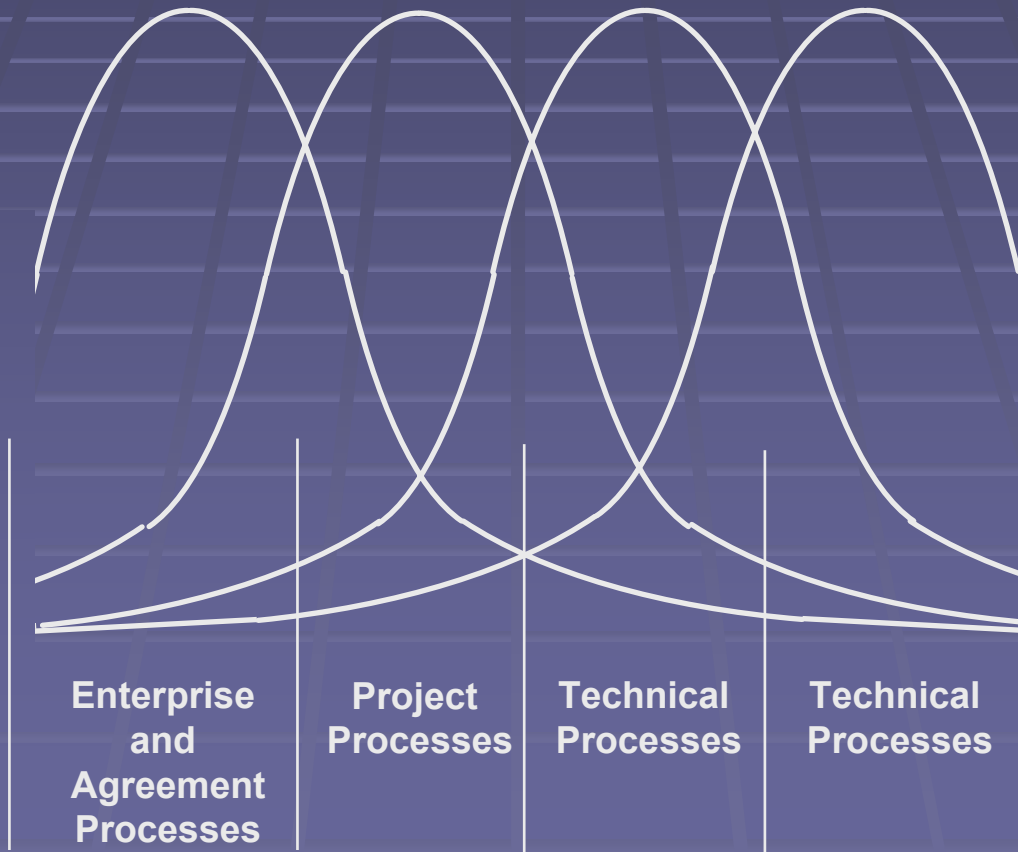
Influence profiles of ISO/IEC 15288

**Business
Managers**

**Project
Managers**

**Systems
Engineers**

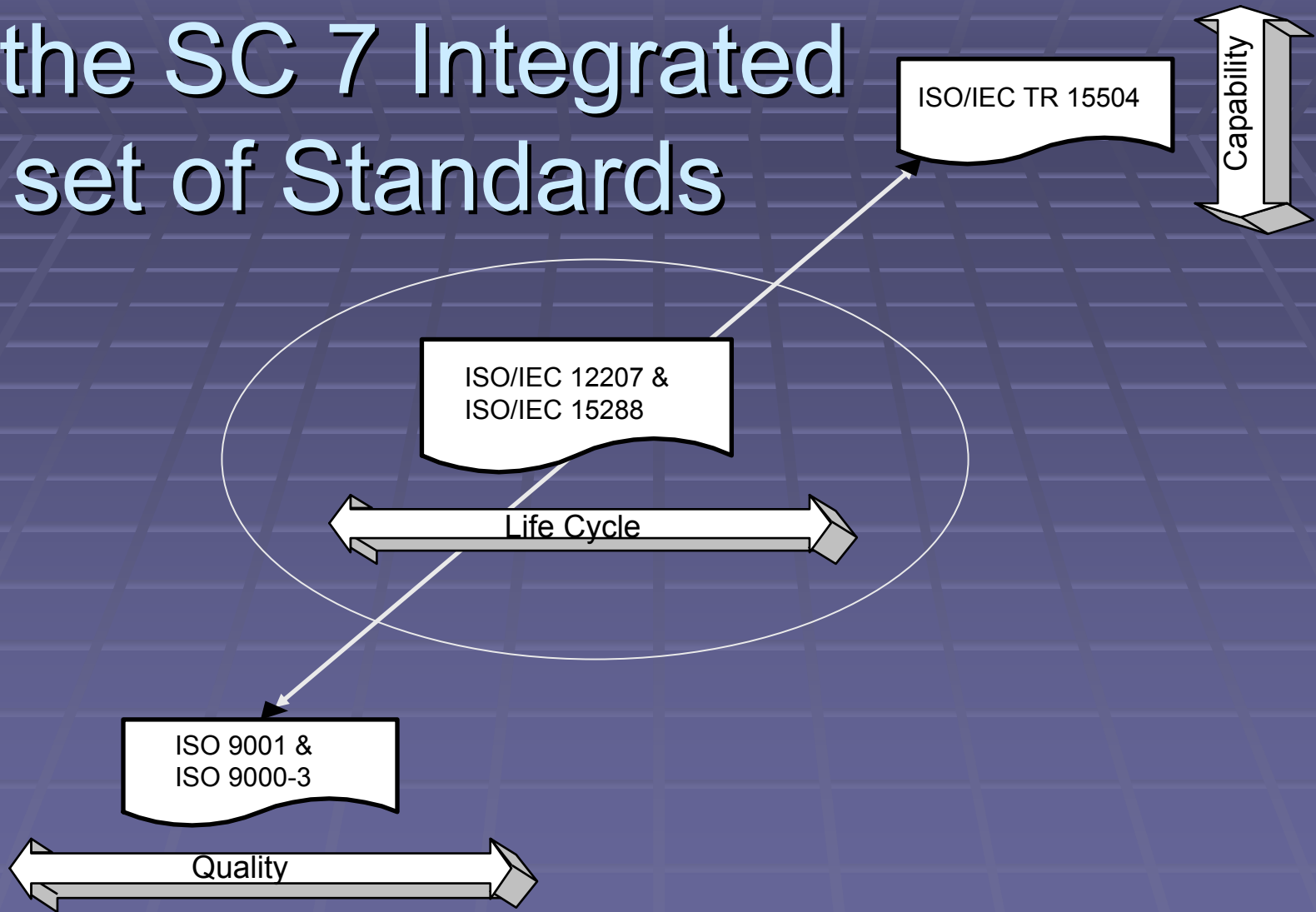
**Specialist
Engineers**



Uses of ISO/IEC 15288

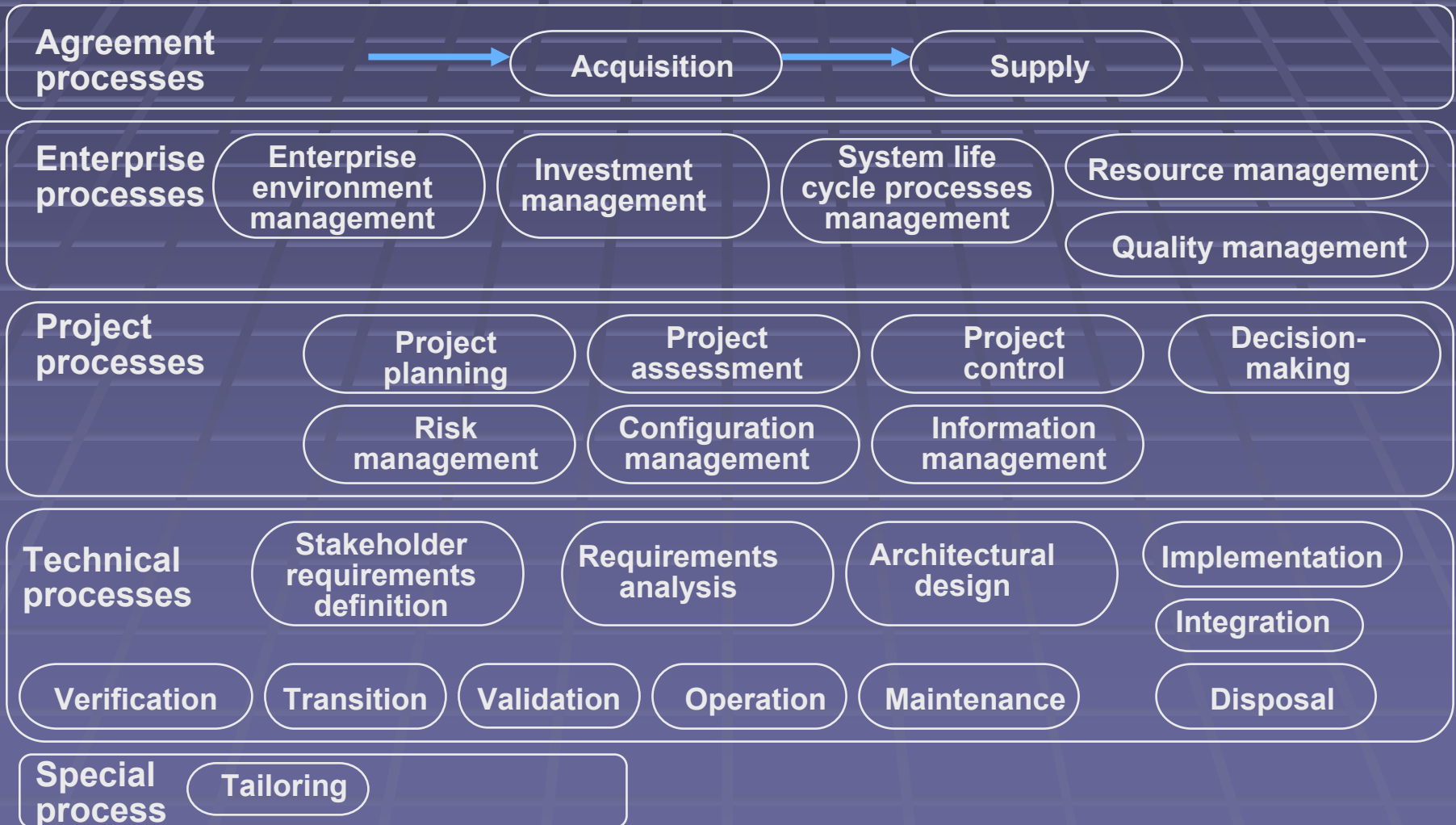
- Acquisition model
 - Supplier management
- Supply model
 - Development
- Risk reduction
- Organizational development
- Professional development
- Process improvement program

ISO/IEC 15288 is part of the SC 7 Integrated set of Standards



System life cycle processes

ISO/IEC 15288

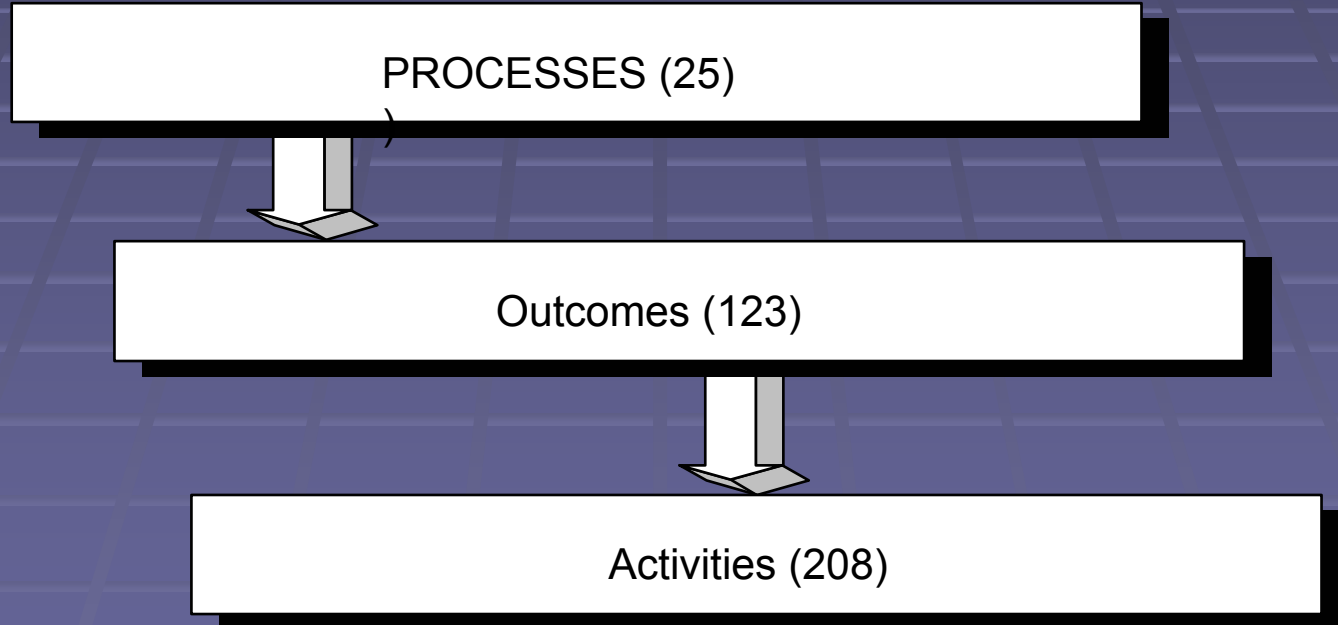


Life cycle processes

- ISO/IEC 15288:
 - Title
 - Purpose
 - Outcome
 - Activity

Development implemented by processes — ISO/IEC 15288 structure

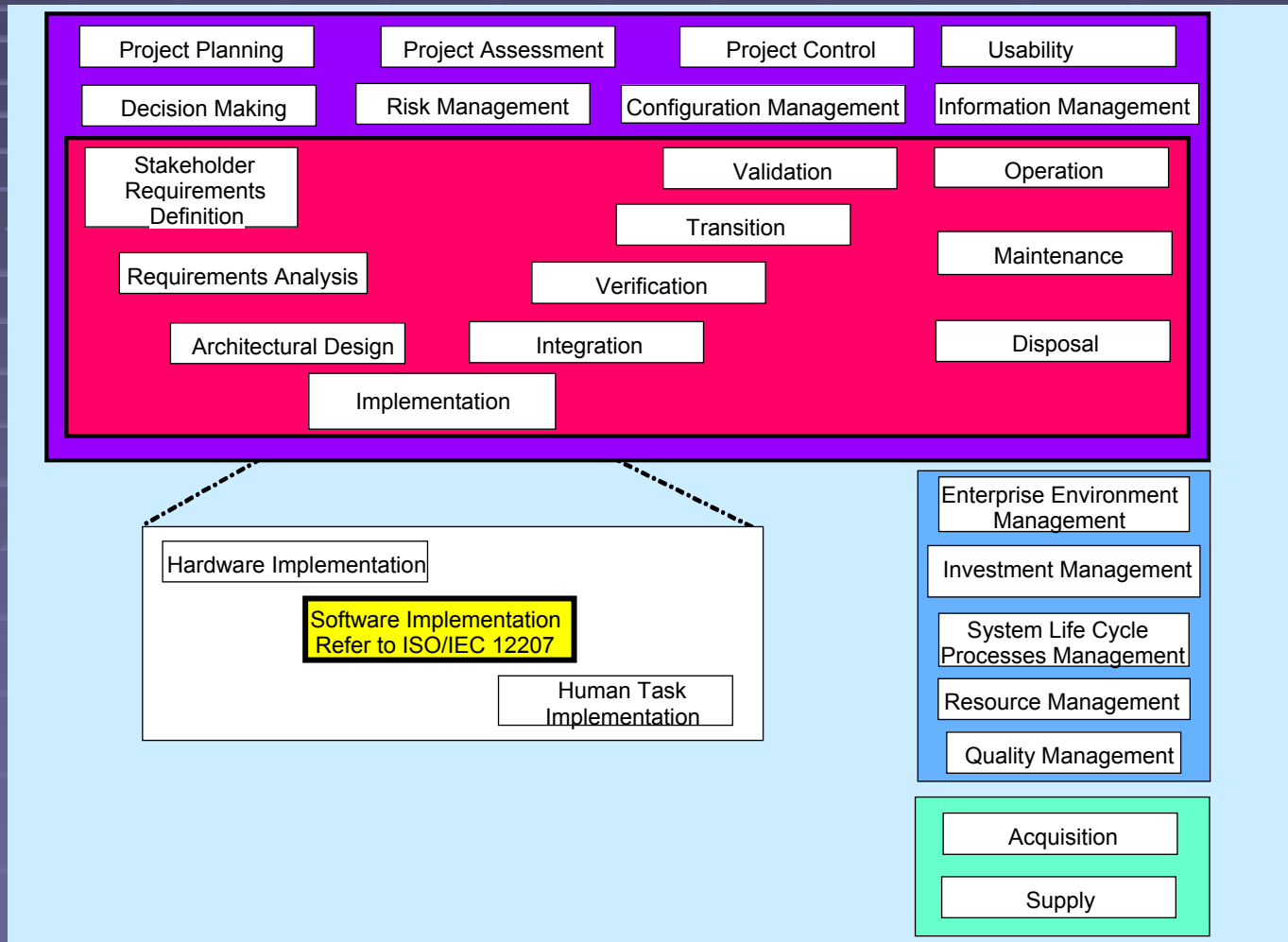
Processes → Outcomes → Activities



System Life Cycle processes – Example stages

Stage	Description
Concept	Analyze needs, identify concepts and develop solutions
Development	Engineer a product that is a producible item
Production	Manufacture the item(s)
Utilization	Operate and use the item(s)
Support	Maintain and support the item(s)
Retirement	Retire, dispose and archive

Relationship between ISO/IEC 15288 and ISO/IEC 12207



System life cycle processes – ISO/IEC 15288 structure

- Processes
 - The purpose of the process is stated in a paragraph that describes at a high level the overall goal for performing the process
- Outcomes
 - An outcome is an observable result of the successful achievement of the purpose of the process.
- Activities
 - The Activities attribute is used to provide a structural decomposition of a process

Example of ISO/IEC 15288 outcomes

- Acquisition Process:
 - A strategy for the acquisition is established
 - A supplier is selected
 - Communication with the supplier is maintained
 - A justification for the selection is declared
 - An agreement with defined acceptance criteria is established
 - A product or service complying with the agreement is accepted
 - Payment or other consideration is rendered

ISO/IEC 15288

- Provides a comprehensive and integrated framework for managing the full life cycle of systems for:
 - Small, medium and large organizations
 - Internal self-imposed use as well as providing a basis for contractual arrangements

Benefits of using ISO/IEC 15288

- A world class approach to systems engineering and systems management
- Life cycle modelling of systems
- Improved quality of the product
- Improved productivity
- Improved customer satisfaction
- Better foundation for growth and product enhancements

Benefits of ISO/IEC 15288

- Life cycle process standard providing:
 - What should be assessed
 - A holistic view of software and systems engineering
 - A basis for stage-based life cycle models
 - A process framework that can be tailored to suit
 - A framework that reduces development risk
 - A basis for communicating
 - A basis for co-ordinating work

Conclusion

- ISO/IEC 15288 is a key reference for any situation where systems are concerned
- Life cycle models are a key concept for successful systems

Further reading

- www.jtc1-sc7.org

Who to contact

- <insert local details>