



ISO/IEC JTC1/SC7  
Software and Systems Engineering  
Secretariat: CANADA (SCC)

## ISO/IEC JTC1/SC7 /N2840

2003-05-21

<b>Document Type</b>	Presentation
<b>Title</b>	SC7 Chairman Presentation at the JTC 1/SC7 Opening Plenary, Montréal, Québec, Canada, 2003-05-12
<b>Source</b>	SC7 Chairman
<b>Project</b>	
<b>Status</b>	Final
<b>Reference</b>	
<b>Action ID</b>	FYI or ACT
<b>Due Date</b>	
<b>Distribution</b>	AG
<b>No. of Pages</b>	35
<b>Note</b>	

Address reply to: ISO/IEC JTC1/SC7 Secretariat  
École de technologie supérieure – Département de génie électrique  
1100 Notre Dame Ouest, Montréal, Québec Canada H3C 1K3  
[secretariat@jtc1-sc7.org](mailto:secretariat@jtc1-sc7.org)

[www.jtc1-sc7.org](http://www.jtc1-sc7.org)

**ISO/IEC JTC 1/SC7**  
**OPENING PLENARY**  
**Montréal, 2003-05-12**  
**SC7 Chairman Presentation**



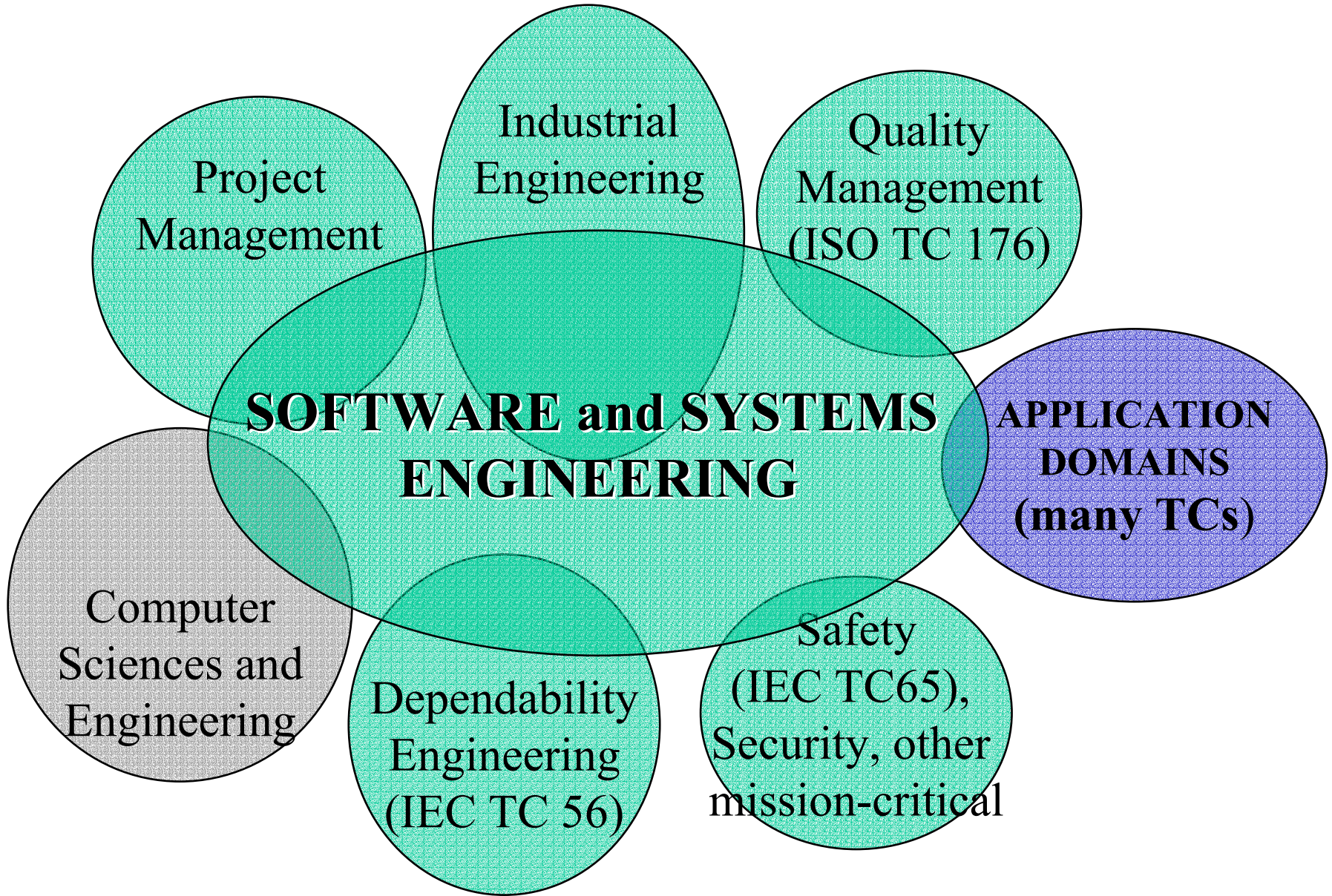
**François Coallier**  
fcoallier @ele.etsmtl.ca

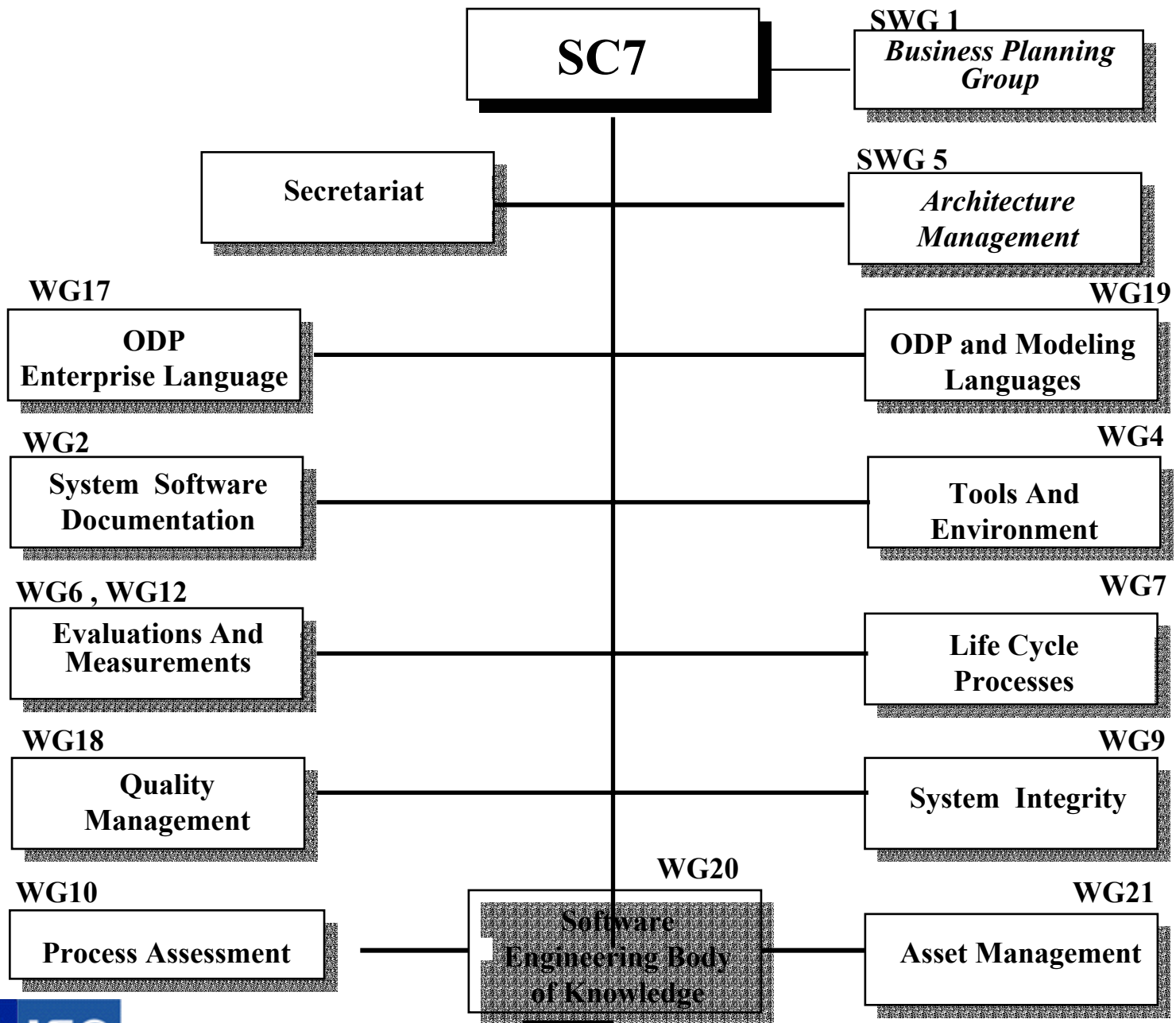
# SC7 TERMS OF REFERENCE

*Standardization of processes, supporting tools and supporting technologies for the engineering of software products and systems*

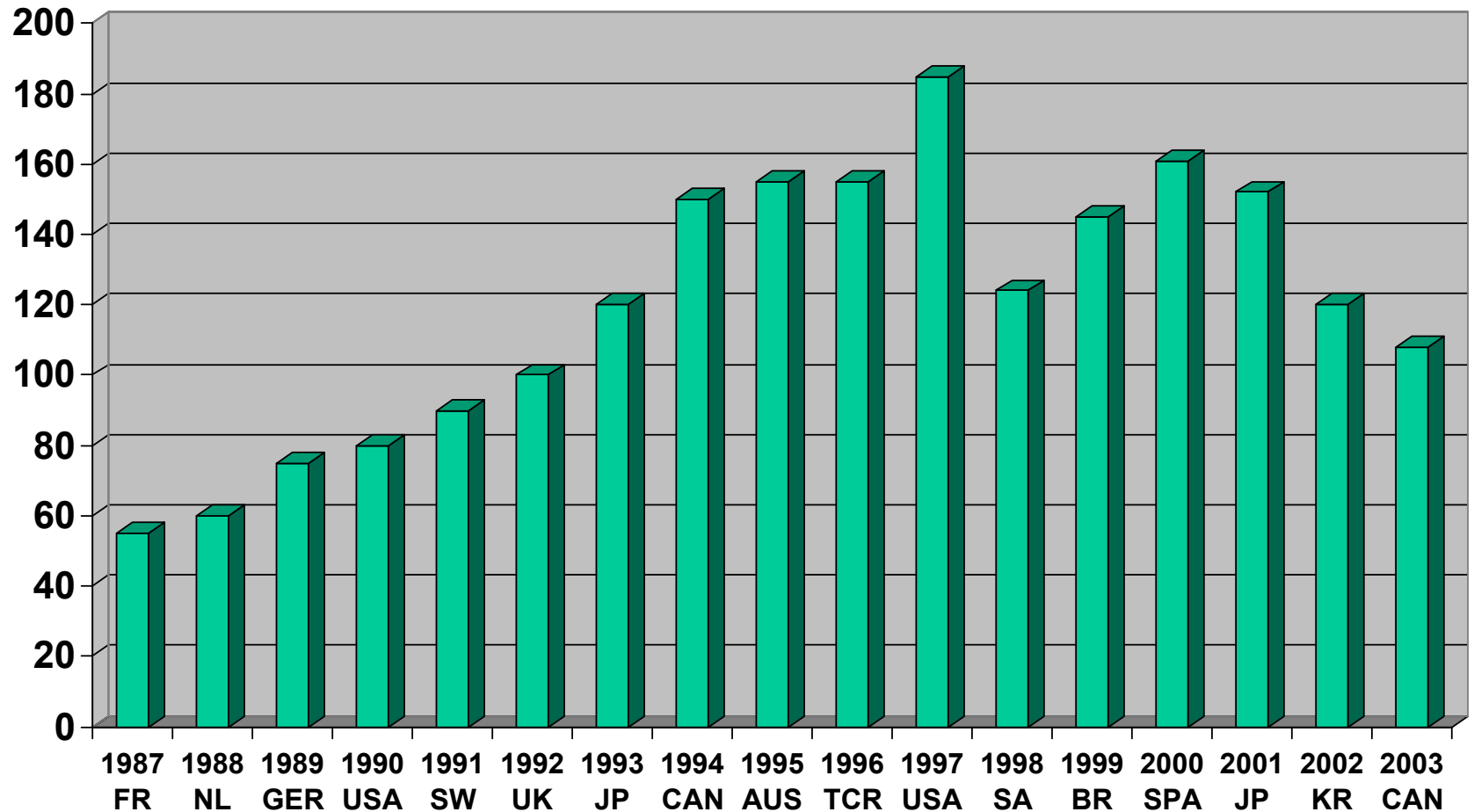
# SC7 History

- **1987 - Formation of JTC1/ SC7**
- **1990 - First Business Plan published**
- **1991:**
  - **Name changed to Software Engineering**
  - **Publication of ISO/IEC 9126**
- **1994 - The concept of product plan was proposed to SC7**
- **1995 - Publication of ISO/IEC 12207**
- **1996 - Publication of the first edition of the SC7 Product Plan**
- **1997:**
  - **Terms of references broadened to Software Systems**
  - **First Business Planning Workshop**
  - **Vocabulary and BPG SWG established**
- **1998:**
  - **Transfer of ODP and E-LOTOS projects from SC33**
  - **Process architecture**
- **2000 - Name changed to *Software and System Engineering***





# Plenary Attendance



# STANDARDS PUBLISHED 2002

**Overall: 69 published standards at the end of 2002**

## **2002 additions:**

- ISO/IEC 14143-2:2002 Information technology -- Software measurement -- Functional size measurement -- Part 2: Conformity evaluation of software size measurement methods to ISO/IEC 14143-1:1998
- ISO/IEC TR 14143-4:2002 Information technology -- Software measurement -- Functional size measurement -- Part 4: Reference model
- ISO/IEC 15288:2002 Systems engineering -- System life cycle processes
- ISO/IEC 15414:2002 Information technology -- Open distributed processing -- Reference model -- Enterprise language





# STANDARDS PUBLISHED

## 2002

### 2002 additions (cont.):

- ISO/IEC 15474-1:2002 Information technology -- CDIF framework -- Part 1: Overview
- ISO/IEC 15474-2:2002 Information technology -- CDIF framework -- Part 2: Modelling and extensibility
- ISO/IEC 15475-1:2002 Information technology -- CDIF transfer format -- Part 1: General rules for syntaxes and encodings
- ISO/IEC 15475-2:2002 Information technology -- CDIF transfer format -- Part 2: Syntax SYNTAX.1
- ISO/IEC 15475-3:2002 Information technology -- CDIF transfer format -- Part 3: Encoding ENCODING.1
- ISO/IEC 15476-1:2002 Information technology -- CDIF semantic metamodel -- Part 1: Foundation
- ISO/IEC 15476-2:2002 Information technology -- CDIF semantic metamodel -- Part 2: Common

# STANDARDS PUBLISHED 2002

## 2002 additions (cont.):

- ISO/IEC 15939:2002 Software engineering -- Software measurement process
- ISO/IEC 20968:2002 Software engineering -- Mk II Function Point Analysis -- Counting Practices Manual

# STANDARDS PUBLISHED

## 2003 (up to now)

### **2003 additions:**

- ISO/IEC TR 14143-3:2003 Information technology -- Software measurement -- Functional size measurement -- Part 3: Verification of functional size measurement methods
- ISO/IEC 19500-2:2003 Information technology -- Open Distributed Processing -- Part 2: General Inter-ORB Protocol (GIOP)/Internet Inter-ORB Protocol (IIOP)
- ISO/IEC 19761:2003 Software engineering -- COSMIC-FFP -- A functional size measurement method

# 2003 View

## From the 2000 View:

- DTR 9126-4: Software Engineering - Product quality - Part 4: Quality In Use Metrics
- 15476: Software Engineering - CDIF Semantic Metamodel - Parts 3,4,5 (**do we resurrect ?**)
- 15909: Software Engineering - High-level Petri Nets - Concepts, Definitions and Graphical Notation (**resurrected**)

## From the 2001 View:

- PRF TR 9126-2: Software Engineering Software Product Quality - Part 2: External Quality
- DTR 14143-5: Definition of Functional Size Measurement - Part 5: Determination of Functional Domains for use with Functional Size

# 2003 View

## **From the 2002 View:**

- DIS 19501-1 – UML PAS
- DTR 19759 – SWEBOOK
- FDIS 90003 – Guidelines for the app. of 9001:2000 to SW
- DIS 20926 IFPUG PAS
- DIS 24570 NESMA PAS

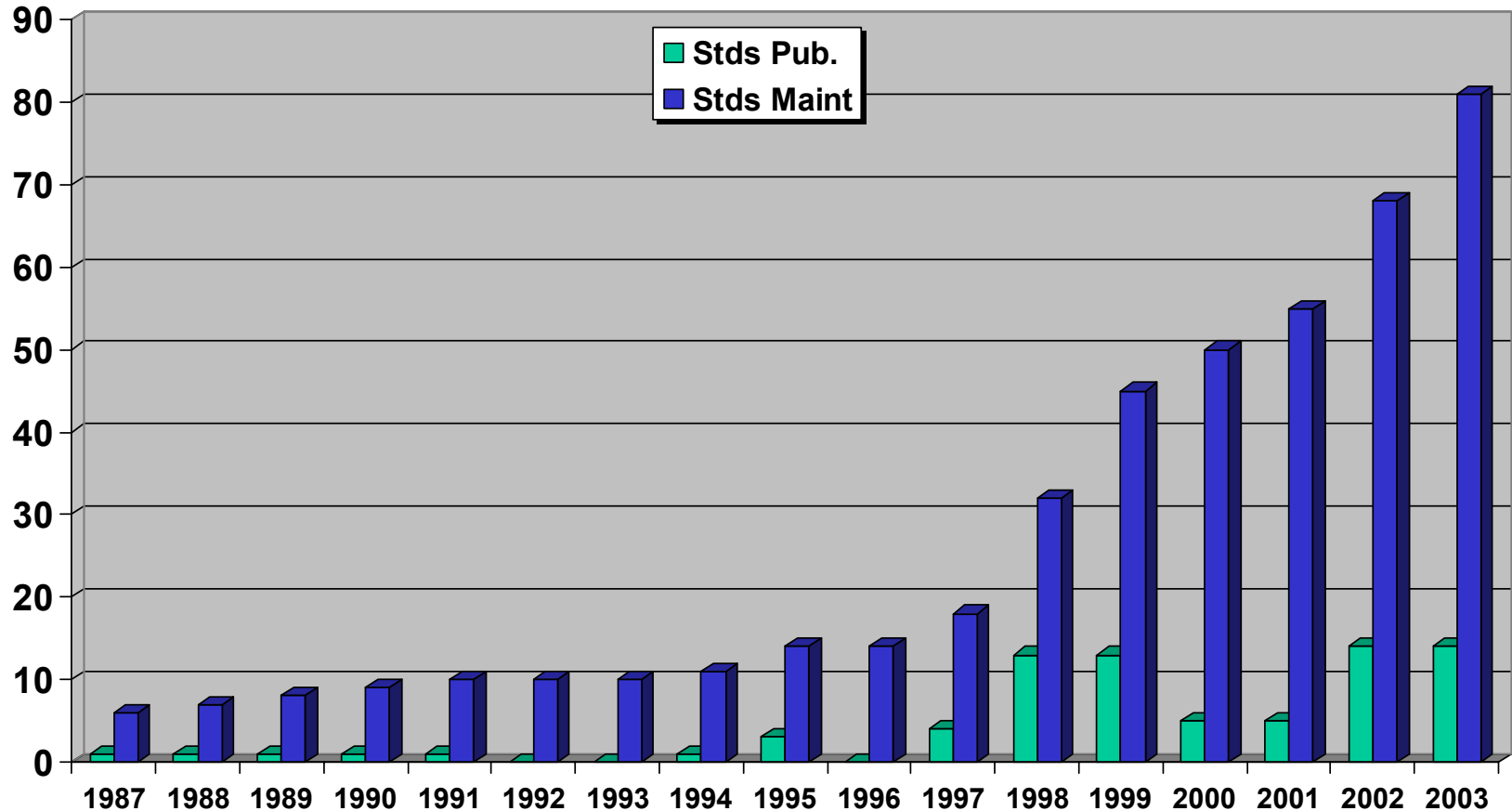
# 2003 View

## **Additional projects near completion:**

- ISO/IEC FDIS 15504-2 Software engineering -- Process assessment -- Part 2: Performing an assessment
- ISO/IEC FCD 15504-3 Information technology -- Process assessment -- Part 3: Guidance on performing an assessment
- ISO/IEC FCD 15504-4 Software Engineering -- Process Assessment -- Part 4: Guidance on use for Process Improvement and Process Capability Determination
- ISO/IEC FCD 18019 Software and system engineering -- Guidelines for the design and preparation of user documentation for application software
- ISO/IEC DTR 19760 Systems engineering -- Guide for ISO/IEC 15288 (System life cycle processes)

# SC7 Production (est.)

(No new NWI assumed - exclude dependability, include PAS)



# Approved New Projects (since the last plenary)

- Software and Systems Quality Framework (SSQF) (Resolution 613 - WG18 – on hold since 2000-12)
- ISO/IEC DIS 16085 Information technology -- Software life cycle processes -- Risk management (fast track) (WG9)
- Revision of ISO/IEC 15026 - System and Software Integrity Levels (WG9)
- Standard on Petri Net Techniques (WG19)
- Guideline on the use of Unified Modeling Language (UML) for ODP viewpoint specifications (Resolution 663 – WG19)



# New Projects (under considerations)

- Revision of 12207 and 15288 for harmonization (Resolution 629 and 665)
- Software measurement - Functional size measurement - Guide for use of 14143 series (functional size measurement) and related international Standards (Resolution 662)
- Information Technology – Requirements Engineering Tool (Study group – resolution 664)
- SC7 Consolidated Terminology and Vocabulary (resolution 674)

# New Projects (under considerations)

- Transfer of IEC/TC56 Project 61720: Guide to techniques and tools for achieving confidence in software (Resolution 675)
- Revision and fast track of IEEE 1220 (Resolution 676)
- Revision and fast track of EIA 632 (Resolution 676)
- Revision of ISO/IEC 14102 (Resolution 677)
- Revision of ISO/IEC 14143-1:1998 (Resolution 678)
- Maintenance project for the use of ITU-T Rec. X.901-3|ISO/IEC 10746 Parts 1-3, Reference Model for Open Distributed Processing (Resolution 679)

# Standards that will come in Maintenance – with no planned activities yet

- 8807:1989 – LOTOS
- 11411:1995 Representation ..state transition
- TR 12182:1998 – Categorisation of Software
- 13235-1 to 3:1998-x ODP Trading Function
- 14568:1997 – DXL
- ISO/IEC TR 15846:1998 Information technology -- Software life cycle processes -- Configuration Management
- ISO/IEC 14764:1999 Information technology -- Software maintenance
- ISO/IEC TR 14759:1999 Software engineering -- Mock up and prototype -- A categorization of software mock up and prototype models and their use
- ISO/IEC 14756:1999 Information technology -- Measurement and rating of performance of computer-based software systems

# WG Current Load Analysis

Working Group	Current Projects	NWI current or planned	Current PAS&FS	Active at the end of 2003 (projected)	Comments
2	3			0	
4	2	2		0	
6	5			4	
7	2	3		2	Revision and harmonization of 12207 and 15288
9	1		1	2	
10	5			2	
12	1	2		0	
17	1			1	Will complete current Work Program before Brisbane Plenary.
18	1			0	NP on hold since 2000-12
19	2		1	2	
20	1			0	Need to work with IEEE on Iron Man ?
21	1			1	

# Prefixes

## Approved Prefixes for SC7 Standards:

- Software Engineering
- Systems Engineering
- Information Technology (WG19, WG17)

# Challenges – Tabled at Busan

- Complete ongoing work
- Close on ongoing planning activities
- Come with a system integrator strategy to work with other organizations in the development and maintenance of our standard set
- Have a structured maintenance plan
  - > process block of standards ?
- Have a consistent architecture
- Need to ensure that what we are producing is used

# Challenges – Tabled at Busan

- Complete ongoing work ✓
- Close on ongoing planning activities ✓
- Come with a system integrator strategy to work with other organizations in the development and maintenance of our standard set ✓
- Have a structured maintenance plan
  - > process block of standards ?
- Have a consistent architecture – **in progress**
- Need to ensure that what we are producing is used
  - **in progress**

# Open Planning Activities

- Software System Dependability
  - Transfer of IEC/TC56 project 61720
  - Relationship with IEC/TC56 negotiate with IEC TC56 a coordinated program of work
- Explore possible joint-work with JTC 1/SC27
- Study group for Information Technology – Requirements Engineering Tool requirements.



# System Integrator – what it is meaning for SC7

- Focusing on high value added work:
  - Developing integrator standards (e.g. 12207, etc...)
  - Developing new standards when existing national or professionals positions need to be reconciled
  - Sub-contracting development and maintenance of component or specialized standards to other parties, ensuring that they integrate in the SC7 standard architecture

# SC7 Direction Statement

Date	Version	Author	Modifications / Additions
1997-08-04	1.0	SC7 AG BPG Session at Walnut Creek (USA)	First version sent as a letter ballot. Titled <i>SC7 Direction Statement 1997</i> – Document number N1763
1997-12-09	1.1	SC7 BPG	Updated and more comprehensive version. . Titled New <i>SC7 Strategic Direction</i> – Document number SC7 BPG – N127
1998-05-22	Published as 4.0	SC7 BPG	07N1927
2002-11-05	2.0	SC7 BPG	Revised and updated version prepared for circulation to the BPG. Titled <i>SC7 Direction Statement 2003</i> – D
2002-11-07	2.1	SC7 BPG	Revised and updated version
2002-11-08	2.2	SC7 BPG	Revised and updated version
2003-04-11	2.3	SC7 BPG	Revised and updated version – circulated as a draft for review at the 2003 SC7 Plenary in Montréal – 07N2825

# SC7 Direction Statement

Needed to be updated to:

- Reflect new directions in Systems Engineering and Enterprise Architecture
- Reflect the evolution of our disciplines and its impact on the global economy and societies
- Document the tactics used in the last five years
- Document and formalise the partnering strategy that evolved in the last four years

# Key Success Factors

SC7 recognize that it will be successful in its mission if:

- Its standards are widely recognized by the software and system engineering professions
- Its standards are widely used by its intended users
- Its standards collection adequately covers the scope of its terms of reference
- Its standards are delivered to the market in a timely fashion
- Its standards collection is maintained up-to-date with the developments in the areas of software and system engineering, as well as with developments in ICT and other relevant disciplines in engineering and science.

# SC 7's Major Strategies for the Period 2003-2008

- **S1** - Ensure that its standards are as consistent and coherent as possible.
- **S2** – Become more a systems integrator by focusing its development activities on integrations standards and adopting and integrating standards developed by other organizations.
- **S3** - Develop and manage key strategic partnerships with international professional and standardization organizations that operate in its mandated area. In 2002 these were the IEEE-CS, INCOSE and OMG.

# SC 7's Major Strategies for the Period 2003-2008

- **S4** - Communicate efficiently to its intended customers about its program of work and market its accomplishments.
- **S5** - Proactively assess the relevance of its standards to the state of software and systems engineering technology and markets, and initiate maintenance or new development activities if required.
- **S6** - Increase its market share in the area of systems engineering
- **S7** - Ensure that its standards are as compatible and coherent as possible.

# SC7 Major Implementation Activities for the Period 2003-2008

- **A1** – Operationalize a Business Planning function by putting in place a SWG on Business Planning
- **A2** – Operationalize architecture planning and management function by putting in place a SWG on Architecture Management
- **A3** – Negotiate cooperation agreements with key partners.

# SC7 Major Implementation Activities for the Period 2003-2008

- **A4** – Initiate study groups to explore new areas or assess market coverage
- **A5** – Use all the tools available to reduce the time to market of standards development and adoption projects.
- **A6** – Initiate Study Groups to address harmonization and consistency issues
- **A7** – Redesign the SC7 Web site to make it a marketing tool



# Next Steps

- Circulate for Letter Ballot after the Montréal Plenary – (note – this is one year after stated in resolution 685).
- Have the BPG resolve comments at the Interim meeting
- Publish
- Update every two years

# Action items for the plenary

<b>ITEM</b>	<b>ACTIONNEE(S)</b>
Prepare resolution to ITTF on DIS and IS processing	Secretariat
Prepare resolution clarifying SC7 Standards prefixes	Secretariat
Prepare resolution re-stating SC7 meeting policy	BPG
Initiate formalizing of partnering with INCOSE and OMG	BPG
Explore partnering with ITU-T Study Group 17	BPG

# Action items for the plenary

<b>ITEM</b>	<b>ACTIONNEE(S)</b>
Prepare SC7 Direction Statement for Letter Ballot	BPG
Explore possibility of Maintenance Rapporteur	BPG, Secretariat
Decide course of action for SSQF NP (N2373 & N2404)	WG18, BPG
Explore possible SC7 usage of Process Specification Language	SWG5
Find consensus on future of WG12 and WG18	Chairman, BPG

# Action items for the plenary

<b>ITEM</b>	<b>ACTIONNEE(S)</b>
Determine future of WG17 after it completes its work program	BPG
Assess the need to establish a study group on life-cycle documentation	BPG