

# Motorola's Participation in the SECC

**Roger G. Fordham**  
Director Performance Excellence  
Global Software Group  
Phoenix, AZ  
[Roger.Fordham@Motorola.com](mailto:Roger.Fordham@Motorola.com)

**John F. Pellegrin**  
Manager Process & Quality  
Consulting  
Global Software Group  
Schaumburg, IL  
[John.Pellegrin@Motorola.com](mailto:John.Pellegrin@Motorola.com)



SECC Celebration  
29 April 2004  
Cairo, Egypt



# The Growing Need for Software in Industry

- **Software now controls large segments of the US and other world economies**
  - Manufacturing and production are controlled by software
  - Many products are controlled by software, and software provides the value-added in most products today
  - Finance, administrative, and business operations are largely run by software
- **Software cost, quality, and schedule are essential items in business strategy, but are not sufficient differentiators**
  - Supply chains and relationships are managed by software
  - Suppliers often succeed or fail based on software capability

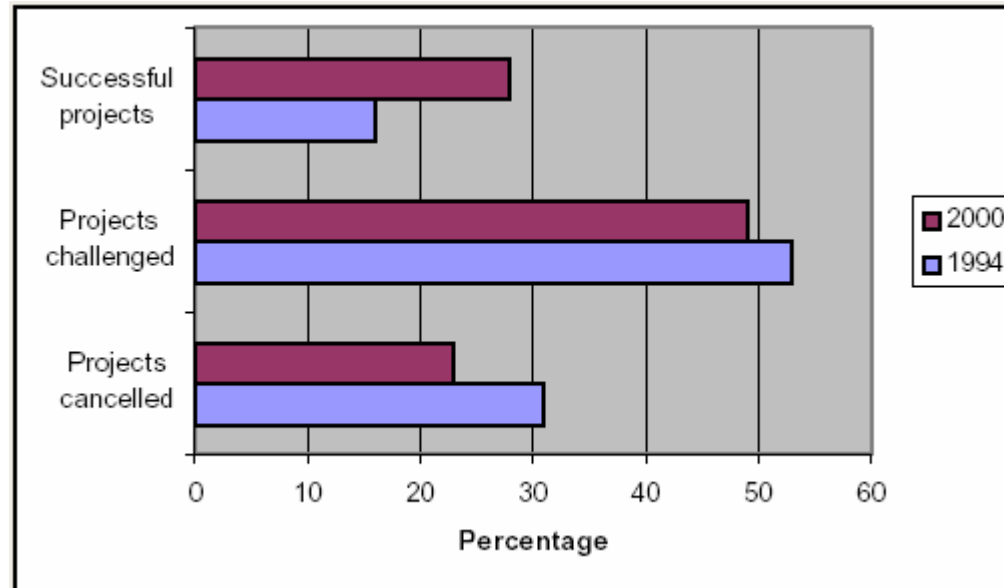


SECC Celebration  
29 April 2004  
Cairo, Egypt



# The Situation in Software

- The performance of software groups is poor\*



- While there is gradual improvement, it is very gradual, and 72% of projects were not considered successful.

\* Standish Reports, 1994, 2000

# US Software Engineering Institute (SEI)



- **Established in 1984**
  - **Associated with Carnegie-Mellon University**
  - **Initiated by and partially funded by the US government**
- 
- **The SEI mission is to provide leadership in advancing the state of the practice of software engineering to improve the quality of systems that depend on software**
  - **The SEI accomplishes this mission by promoting the evolution of software engineering from an ad hoc, labor-intensive activity to a discipline that is well-managed and supported by technology**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Mission

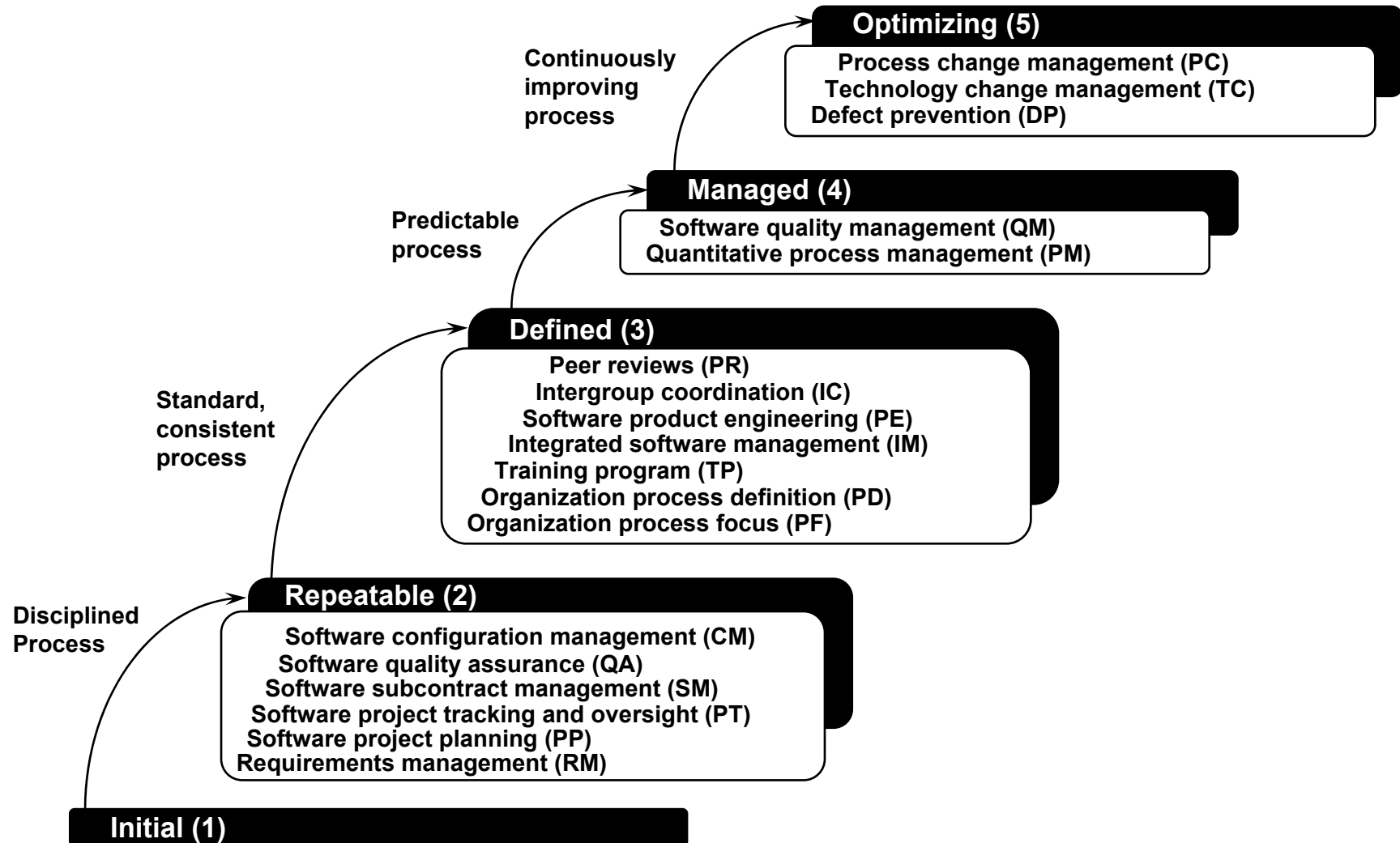
- **The SEI mission is to provide leadership in advancing the state of the practice of software engineering to improve the quality of systems that depend on software**
- **The SEI accomplishes this mission by promoting the evolution of software engineering from an ad hoc, labor-intensive activity to a discipline that is well-managed and supported by technology**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# SEI Capability Maturity Model® (CMM®)



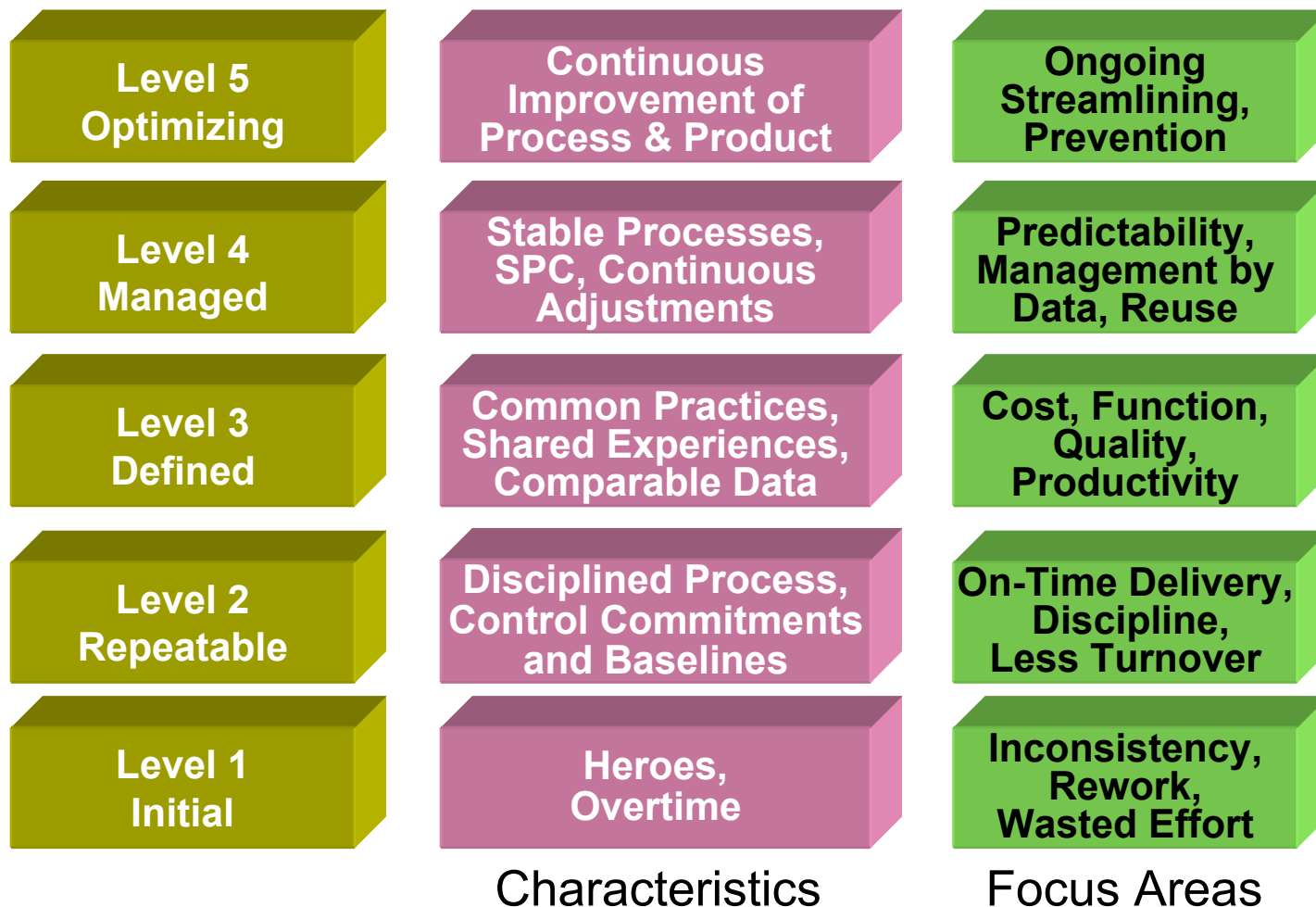
® CMM and Capability Maturity Model are registered in the U.S. Patent and Trademark Office.



SECC Celebration  
29 April 2004  
Cairo, Egypt



# SEI Software CMM<sup>®</sup> Maturity Levels



SECC Celebration  
29 April 2004  
Cairo, Egypt



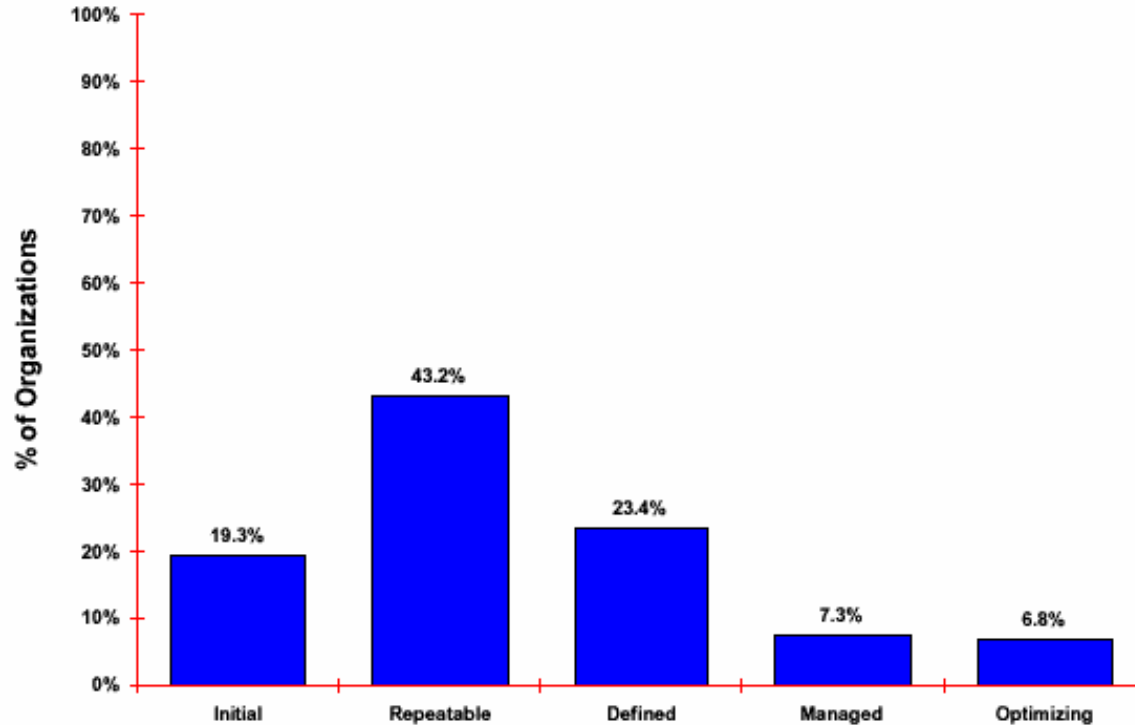
# Summary of Industry Data



Carnegie Mellon University  
Software Engineering Institute

## Organization Maturity Profile

August 2002



Based on most recent assessment, since 1998, of 1124 organizations.



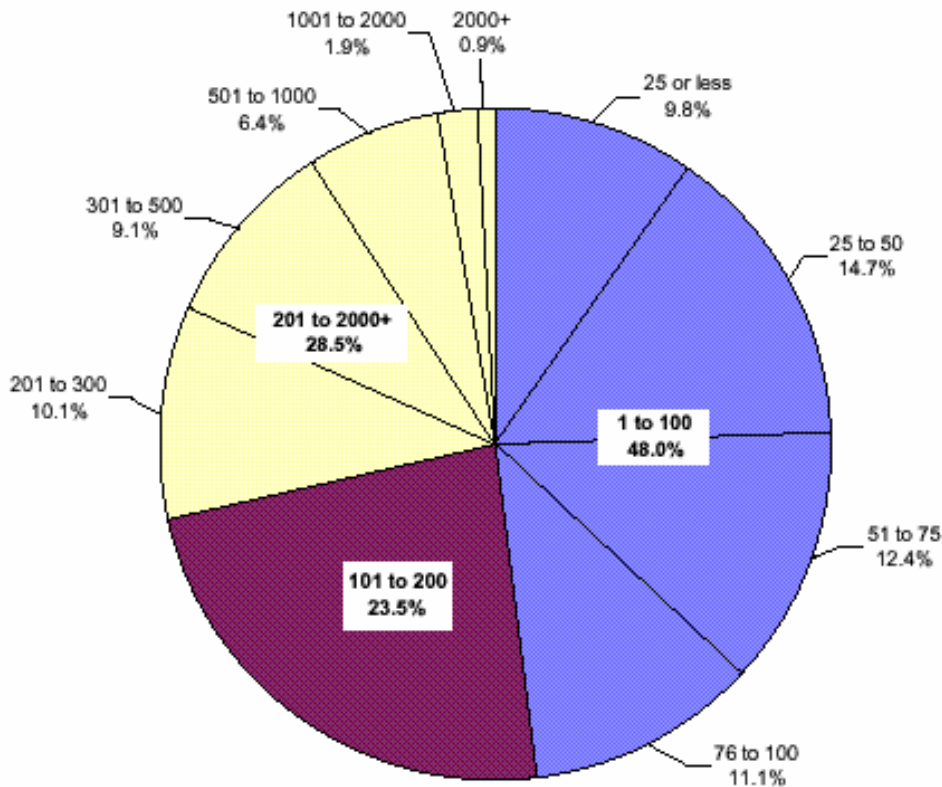
SECC Celebration  
29 April 2004  
Cairo, Egypt





# Organization Size

Based on the total number of employees primarily engaged in software development/maintenance in the assessed organization

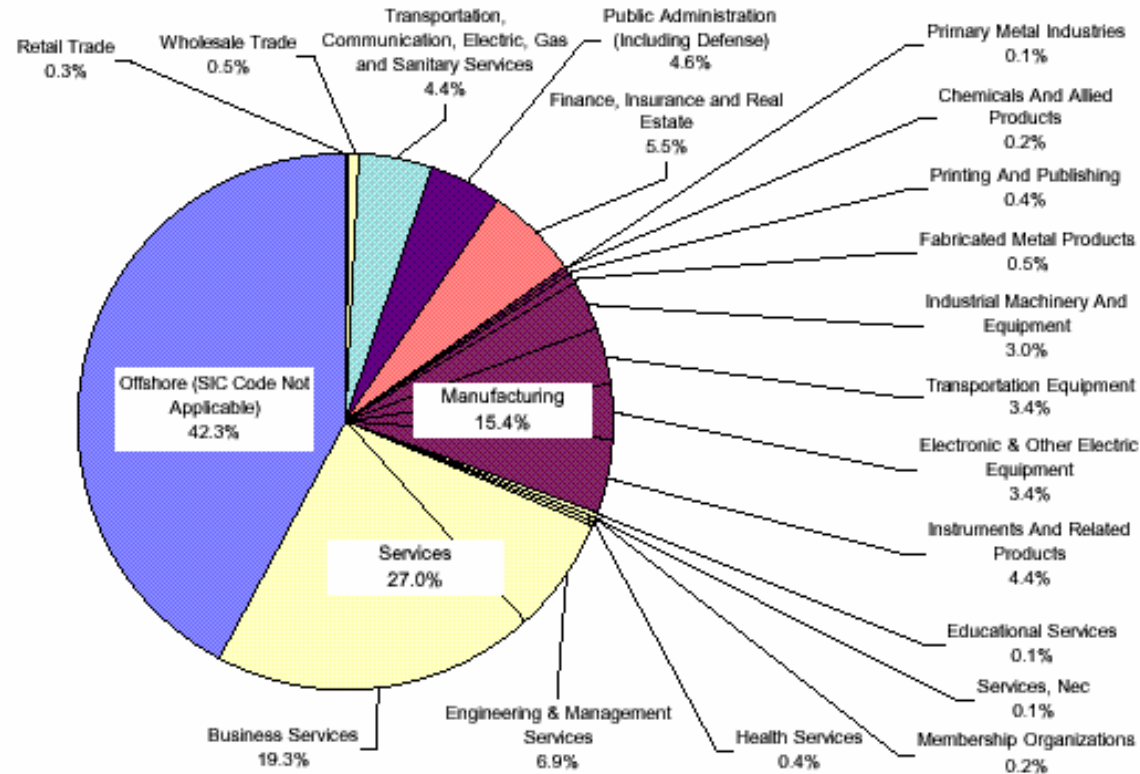


Based on 1094 organizations reporting size data



# Types of Organizations

## Based on Primary Standard Industrial Classification (SIC) Code



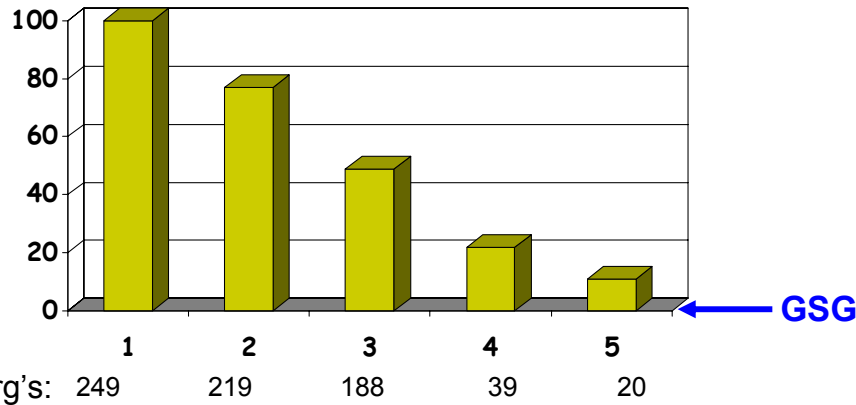
Based on 1124 organizations

# Proven Industry Returns on SPI Investment

## Presidential Task Force - 2002 Data

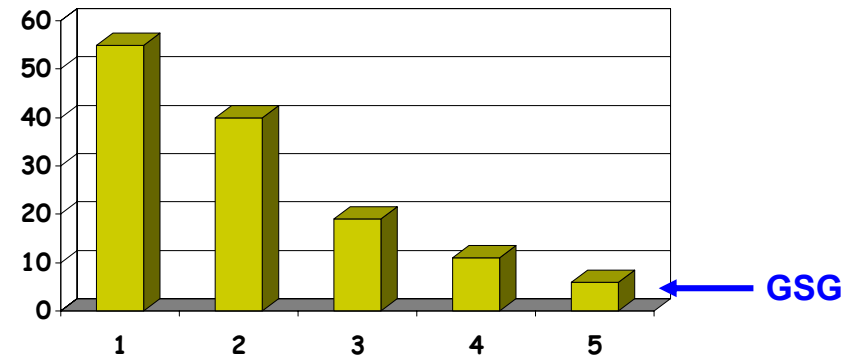
### Improved Quality

Relative Problem Reports After Release



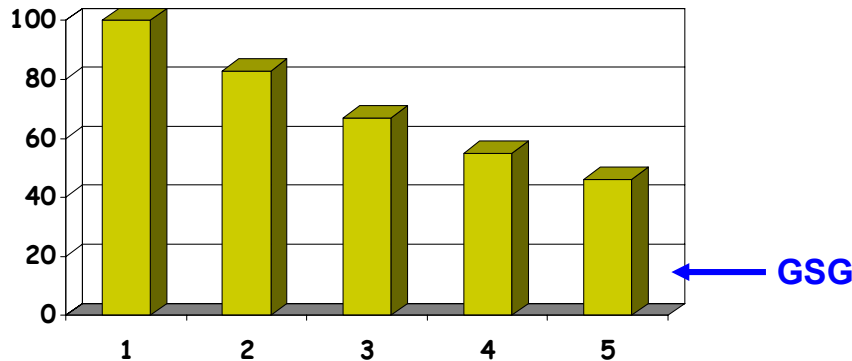
### Reduced Cost Of Poor Quality (Rework)

Relative % of Development Effort



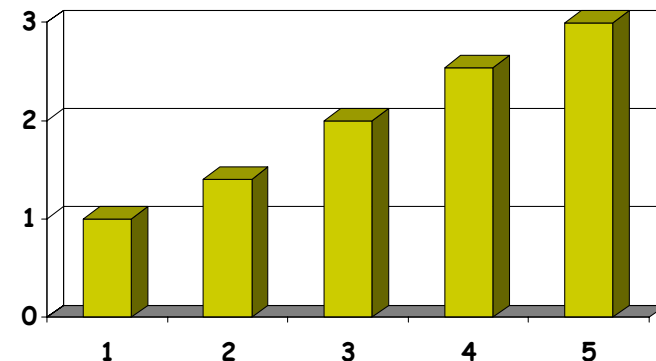
### Reduced Cycle Time

Relative Cycle Time



### Increased Productivity

Relative Productivity (KLOC/Person Month)



SEI CMM Process Maturity Levels

SEI CMM Process Maturity Levels



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Motorola Global Software Group (GSG) Vision

Be the premier provider of innovative software products and services to Motorola's businesses and customers worldwide.



SECC Celebration  
29 April 2004  
Cairo, Egypt



MOTOROLA and the Stylized M Logo are registered in the US Patent & Trademark Office. All other product or service names are the property of their respective owners. © Motorola, Inc. 2004.

# Global Software Group Core Beliefs

- GSG will use **process as an enabler** for business success
- GSG will focus on **continuous improvement** at all times and in all processes
- GSG and all its centers will strive to operate in a fashion that embodies the principles of an SEI Software CMM® **Maturity Level 5** organization
- GSG shall operate with a **sharing and collaborative nature**, globally
- GSG will exhibit **leadership in outreach** to universities, industrial organizations, and governments in helping grow and develop the global software industry.



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG Expertise Domains

<i>Wireless Networks &amp; Infrastructure Components</i>	<b>Radio Network, Core Network, Services Network, Operational Support &amp; Network Systems, End-to-End Applications</b>
<i>Wired Networks &amp; Infrastructure Components</i>	<b>Core Network Components, Services Components &amp; Systems, Operational Support Network Systems, End-to-End Applications</b>
<i>Wireless Device Software &amp; Systems</i>	<b>Operating Environments &amp; Platform Architectures, Wireless Communications Drivers, User Interfaces, Application Software</b>
<i>Wired Device Software &amp; Systems</i>	<b>Operating Environments &amp; Platform Architectures, Application Software</b>
<i>Embedded Software Solutions, Drivers and Protocols</i>	<b>Communications Drivers, Embedded Systems &amp; Electronic Design Tools</b>
<i>Automotive &amp; Telematics Software</i>	<b>In-Vehicle Software, In-Vehicle Applications, Off-Vehicle Systems</b>
<i>E-Business Solutions and Tools</i>	<b>Manufacturing Execution Systems, Enterprise Business Process Software &amp; Applications</b>
<i>Systems Engineering &amp; Systems Integration</i>	<b>Front End Systems Design, Market Requirements Definitions, Network Planning &amp; Systems Designs, Network Architecture, Reliability Engineering</b>
<i>Software Engineering Consulting</i>	<b>SEI CMM, CMMI, Software Process Tools</b>



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Motorola Global Software Group

## Global Software Group Locations



SECC Celebration  
29 April 2004  
Cairo, Egypt



MOTOROLA and the Stylized M Logo are registered in the US Patent & Trademark Office. All other product or service names are the property of their respective owners. © Motorola, Inc. 2004.

# GSG's Characteristics

- **Multiple widely-dispersed geographic locations**
- **Common set of software engineering principles and beliefs**
- **Common process framework, organization structures, roles, and responsibilities**
- **Able to leverage common approaches to excel in multiple, diverse domain areas**
- **90+% of GSG population operating at maturity levels 4 and 5.**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# The Origins of the SECC

**1998 – Request to Motorola from Egypt for guidance and assistance in accelerating the development and progress of software engineering in Egypt**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG-SECC History - 1

- **1998 Joint visits: Motorola and Egypt**
- **Dec 1998: Egyptian SEI Concept Initiation**
  - 2-week workshop, with industry, government, and university leaders (~50)
    - John Pellegrin, Roger Fordham, Bob Aron
  - Action planning to develop concepts of Egypt SEI
  - Motorola promise by Dr. Terry Heng of financial and in-kind support when Egypt SEI initiated



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG-SECC History - 2

- **June 2001: Inauguration of Egypt Software Engineering Competence Center (SECC)**
  - Created under the recently established Ministry of Communications and Information Technology (MCIT) - H. E. Dr. Ahmed Nazif
  - Dr. Gamal M. Aly appointed as Director of the SECC
  - Event included presentations and keynotes
  - 23 founding member companies in the SECC
  - Initiation of Motorola financial and in-kind support of the SECC



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG-SECC History - 3

- **June 2002: First year in-kind Support**
  - 2-day SECC workshop on Software Process Improvement
  - Preliminary SEI CMM assessments for 2 selected SECC member companies (DMS, RayaSoft).
  - Assessor training provided for each company and SECC representatives
  - Strategic planning discussions with the SECC



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG-SECC History - 4

- **Oct 2003 Second Year Motorola Support**
  - Workshops on Software Testing and tailoring of Software CMM for small and medium enterprises (SMEs)
  - Mini-assessments for 4 small software businesses
  - Certification discussions with the SECC (Oct. 2003)
  - Strategic planning with the SECC for SME process improvement



SECC Celebration  
29 April 2004  
Cairo, Egypt



# GSG-SECC History - 5

- **April 2004: Third Year Motorola Support**
  - 2-day SECC workshop on Risk Management
  - Workshops with 6 SECC Working Groups on KPAs for SMEs
  - Strategic planning for future SECC activities
  - SECC celebration!



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Motorola Historical Participants

- **Dr. Terry Heng**
- **Sayed Gharbawi**
- **John Pellegrin**
- **Terry Wardle**
- **Roger Fordham**
- **Kathy Griffith**
- **Bob Aron**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Challenges to the SECC

- **Accelerate progress of Egyptian software industry**
- **Expand knowledge services for software industry**
- **Grow linkages into worldwide software engineering**
- **Challenge the best companies to achieve high quality and productivity**
- **Contribute to the industry body of knowledge**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Challenges to IT Industry

- **Participate, share, and act to improve the software industry in Egypt**
- **Plan how and when to start to use the CMMI model**
- **Seek the highest levels of process performance and product quality, but seek true differentiators**



SECC Celebration  
29 April 2004  
Cairo, Egypt



# Congratulations on Your 3-Year Achievement!

We Feel Privileged to have  
Participated in the Origination and  
Growth of the SECC



SECC Celebration  
29 April 2004  
Cairo, Egypt

