



Carnegie Mellon  
Software Engineering Institute

# Process Maturity Profile

## CMMI<sup>®</sup> For Development SCAMPI<sup>SM</sup> Class A Appraisal Results 2009 End-Year Update

March 2010

We could not produce this report without the support of the organizations and lead appraisers who reported their appraisal results to the SEI<sup>SM</sup>.

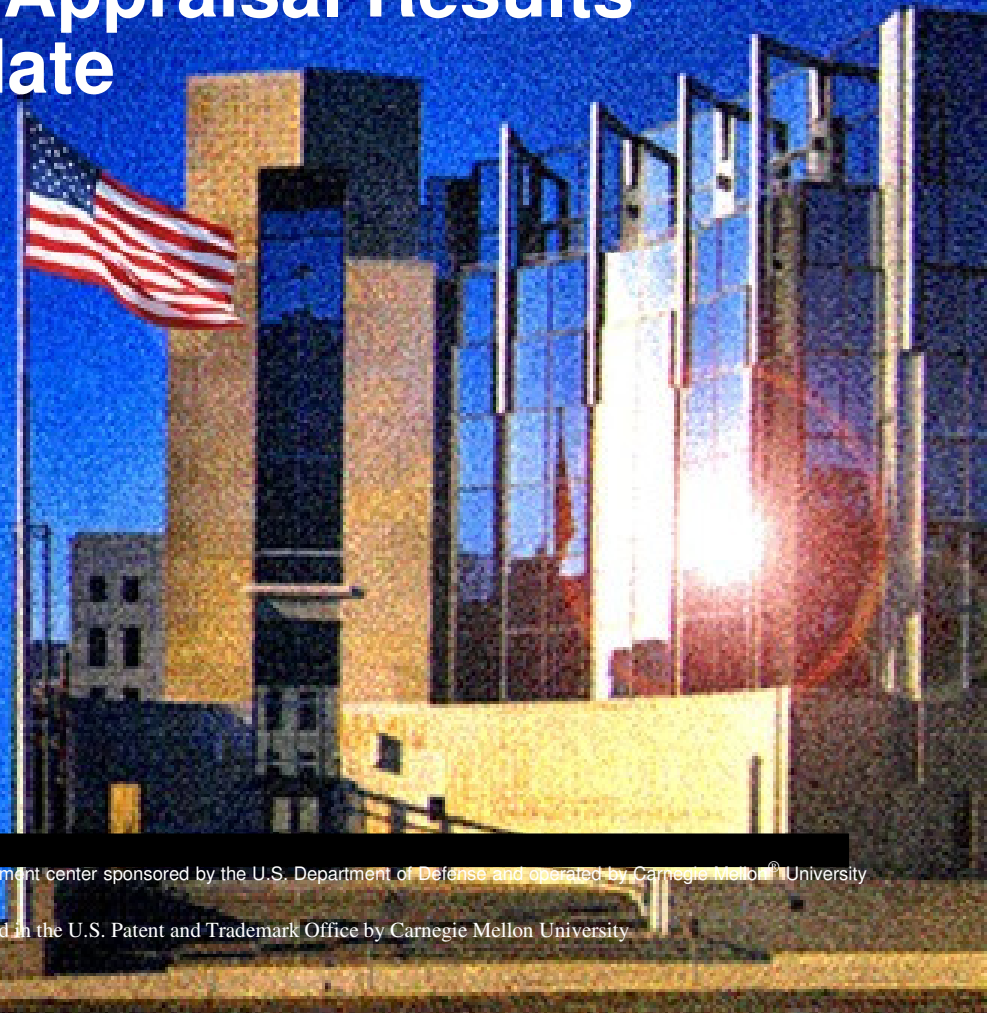
Our many thanks for their continuing cooperation with our data collection and analysis efforts.

CMMI Appraisal Program

The Software Engineering Institute is a federally funded research and development center sponsored by the U.S. Department of Defense and operated by Carnegie Mellon<sup>®</sup> University

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# Outline

## Introduction

## Current Status

## Community Trends

## Organizational Trends

## Summary And Terms used in this Briefing

## How to Report your Appraisal Results to the SEI

This briefing is based solely on the appraisals reported to the SEI. It cannot be used as a source for an exact indicator of all organizations in the world using CMMI models or appraisal methods nor can it be used for certification or verification purposes.

The SEI does not certify appraisal results or organizations. The SEI licenses SEI Partners, authorizes/certifies lead appraisers, team leaders and high maturity lead appraisers to conduct appraisals. Neither the SEI nor any other organization is a “certifying authority” of the results from a SCAMPI appraisal. Therefore requests to the SEI to provide information to be used for this purpose can not be fulfilled. Information provided by the SEI, such as this briefing, is to demonstrate reported results of the use of CMMI products and services only.

Organizations performing source selection or verification should consider performing an evaluation appraisal. For more information on appraisal methods and for a directory of authorized lead appraisers who can perform them, visit:

<http://www.sei.cmu.edu/cmmi/casestudies/profiles/cmmi.cfm>



# Introduction: Purpose

**Characterize the adoption of CMMI® - DEV**

**Describe results from Standard CMMI Appraisal Method for Process Improvement (SCAMPI<sup>SM</sup>) v1.1/v1.2 Class A appraisals using Capability Maturity Model® Integration (CMMI-SE/SW/IPPD/SS v1.1 or CMMI - DEV v1.2) \***

**Encourage continued reporting of results**

\* Organizations previously appraised against CMMI v1.0 and which have not reappraised against v1.1 or v1.2 are not included in this report

Please visit: <http://www.sei.cmu.edu/cmmi/casestudies/profiles/cmmi.cfm> for additional information or questions you may have about this briefing before contacting the SEI directly



# Introduction - 2: Briefing Contents

This briefing includes three primary sections:

## 1. Current Status

- Snapshot of the software community based on the most recent appraisal, since 2002, of reporting organizations

## 2. Community Trends

- Global distribution of appraisals
- Growth in the number of appraisals performed
- Shifts in the maturity profile over time

## 3. Organizational Trends

- Analysis of Process Area (PA) satisfaction
- Time to move up in maturity based on change in maturity level and time between appraisals



# Current Status

**SCAMPI v1.1/v1.2 Class A appraisals conducted from the SCAMPI V1.1 April 2002 release through December 2009 and reported to the SEI by January 2010**

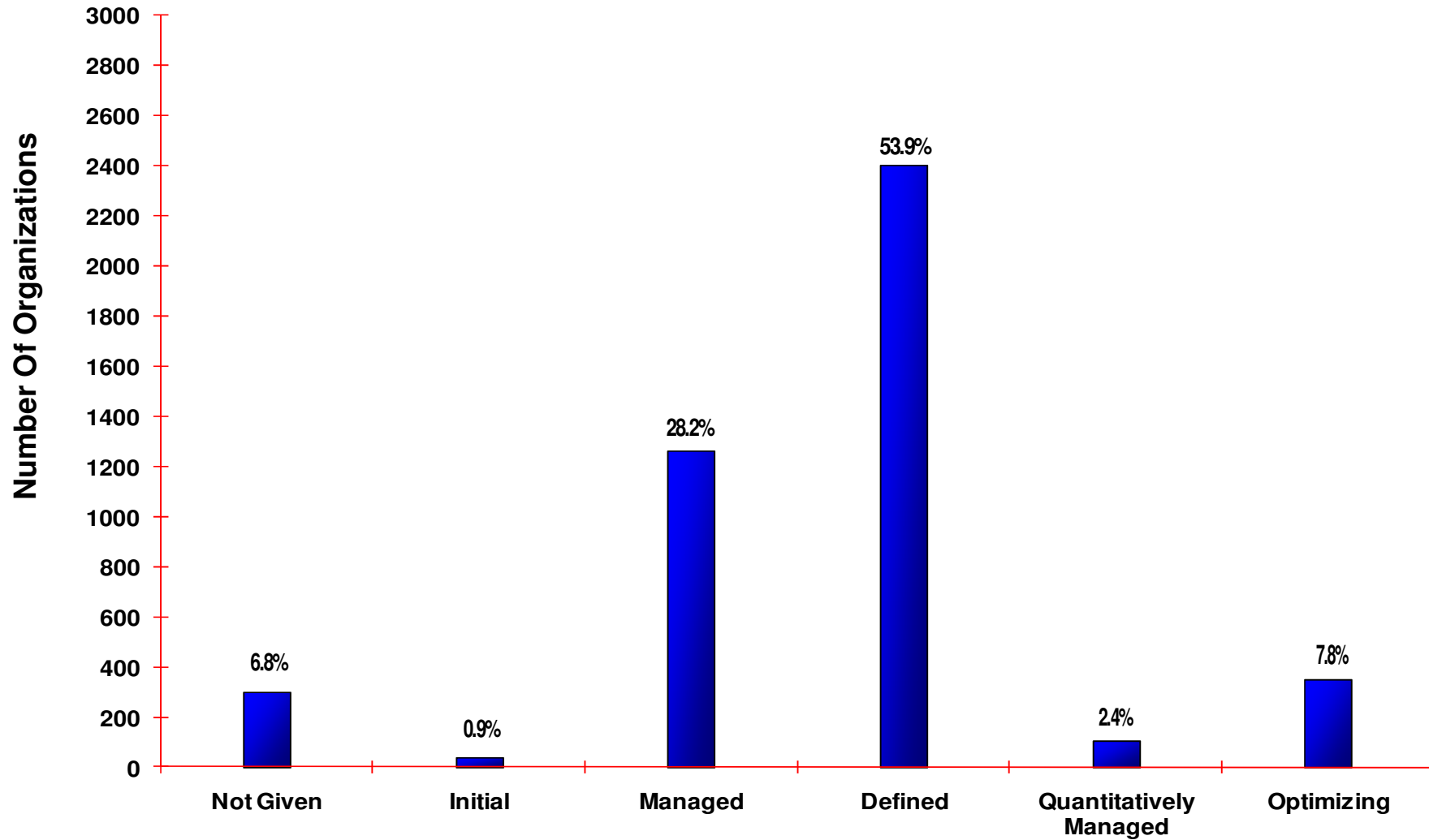
- **5,499 appraisals**
- **4468 organizations**
- **3,458 participating companies**
- **826 reappraised organizations**
- **30,227 projects**
- **74.3% Non-USA organizations**

**Please refer to: Terms Used in this Report on page 27**

Additional charts providing different views and break down of this information will be added to this briefing as more appraisal data is reported to the SEI over time.



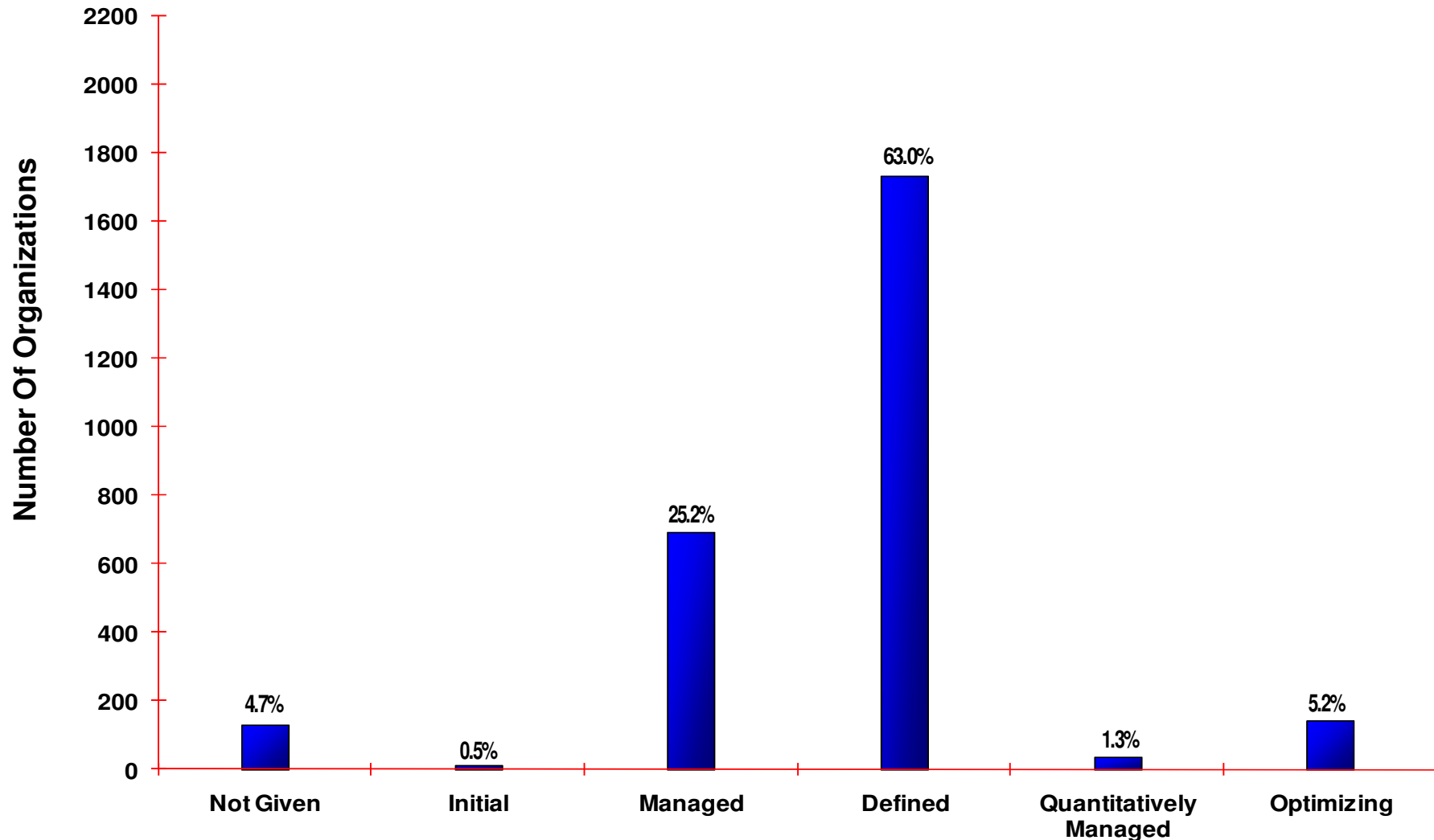
# Process Maturity Profile by All Reporting Organizations



Based on most recent appraisal of **4468** organizations



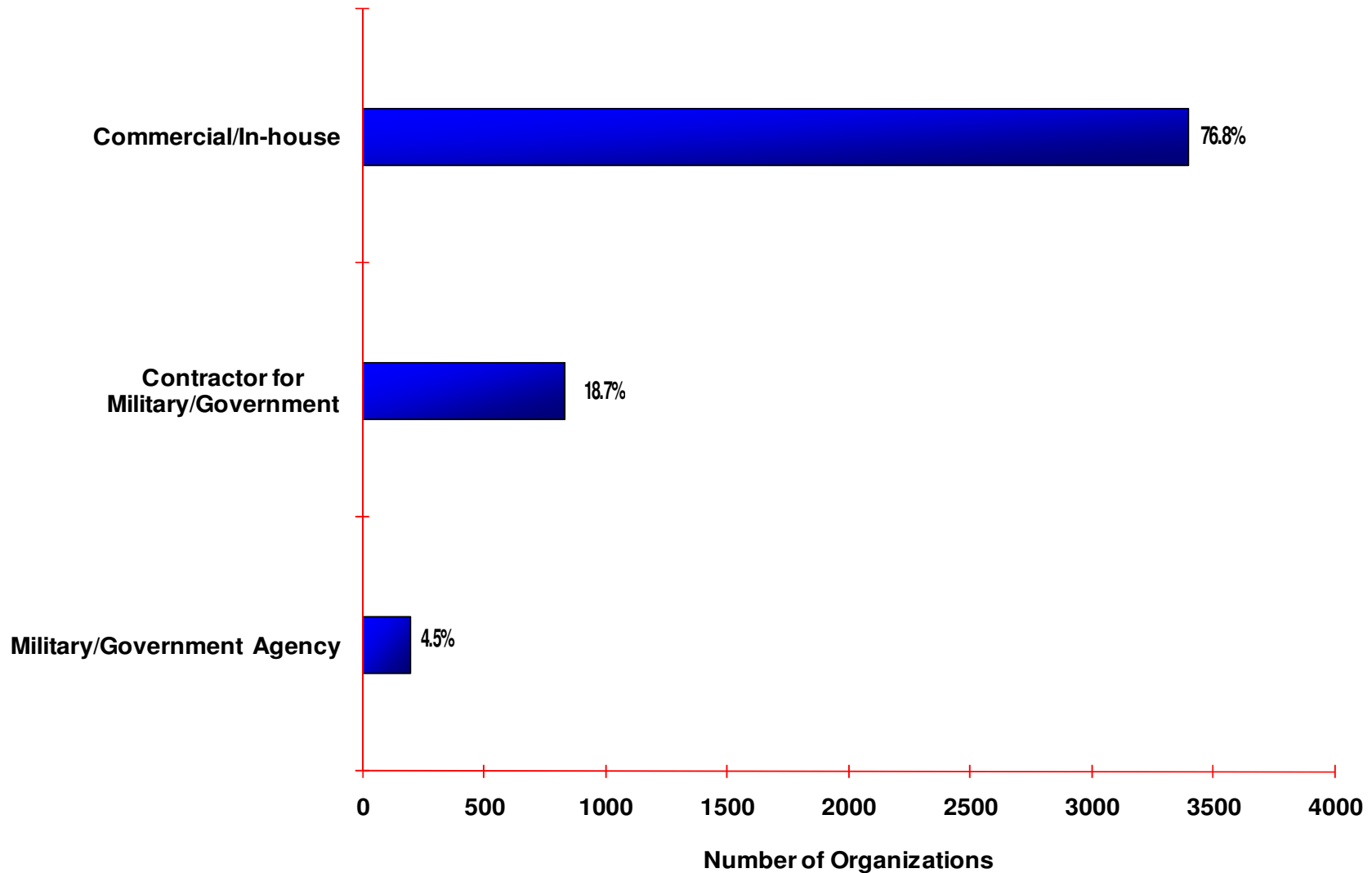
# Process Maturity Profile (V1.2 Only) by All Reporting Organizations



Based on most recent appraisal of **2753** organizations



# Reporting Organization Categories

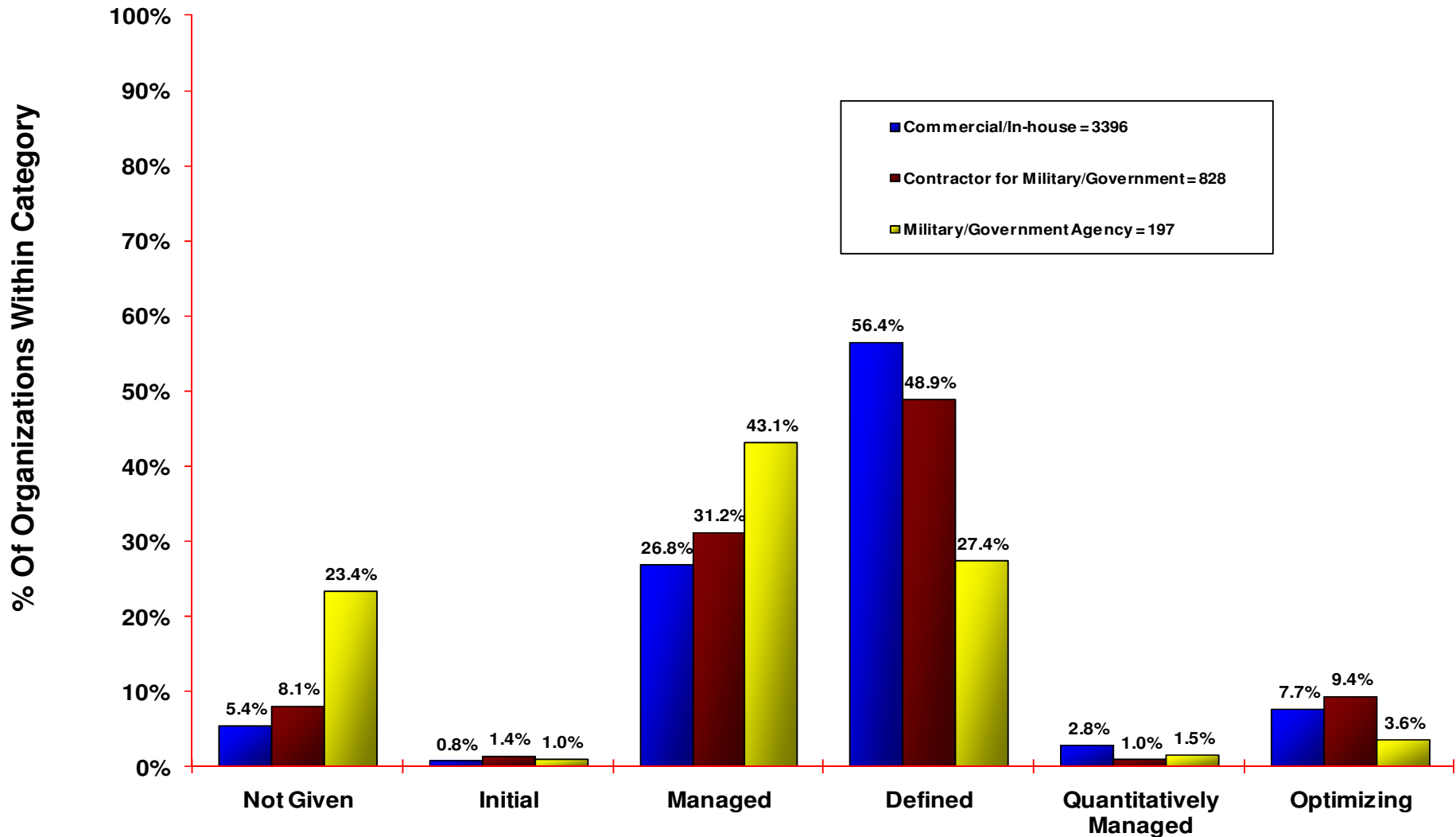


Based on 4468 organizations reporting an organization category





# Process Maturity Profile by Reporting Organization Categories

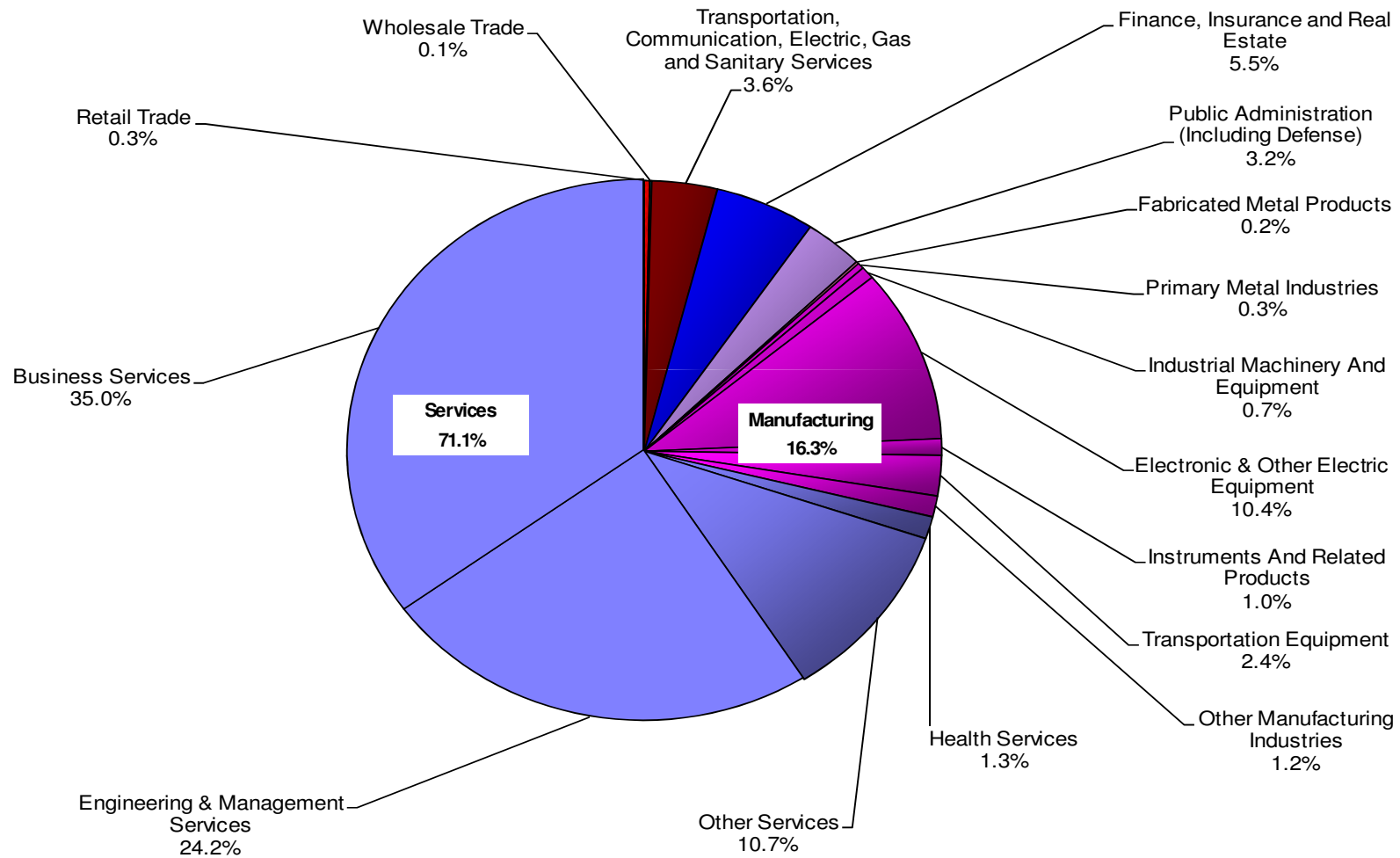


Based on most recent appraisal of **4421** organizations reporting an organization category



# Organization Type

Based on Primary Standard Industrial Classification (SIC) Code

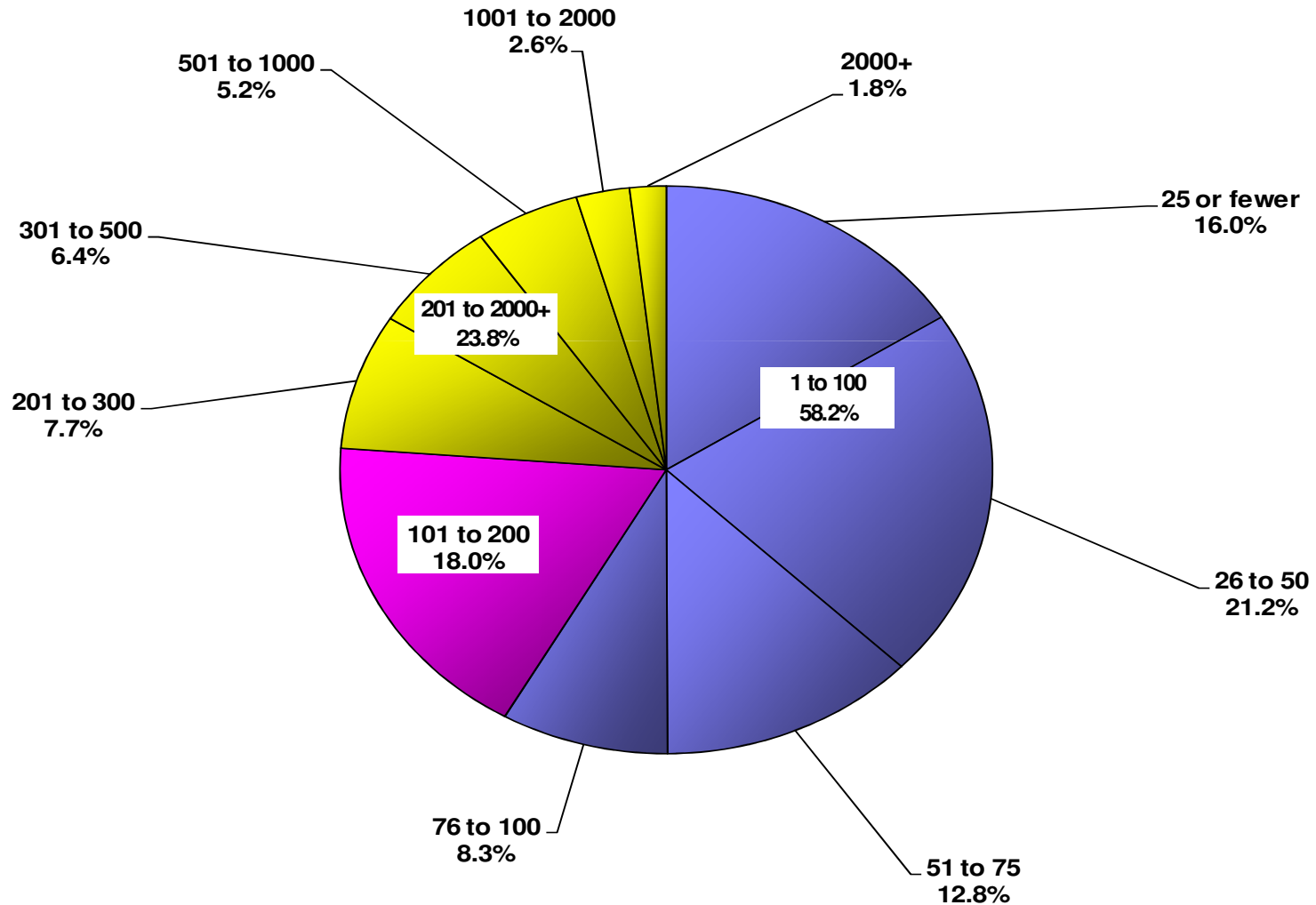


Based on 3766 organizations reporting SIC code. For more information visit: <http://www.osha.gov/oshstats/sicser.html>



# Organization Size

Based on the total number of employees within the area of the organization that was appraised

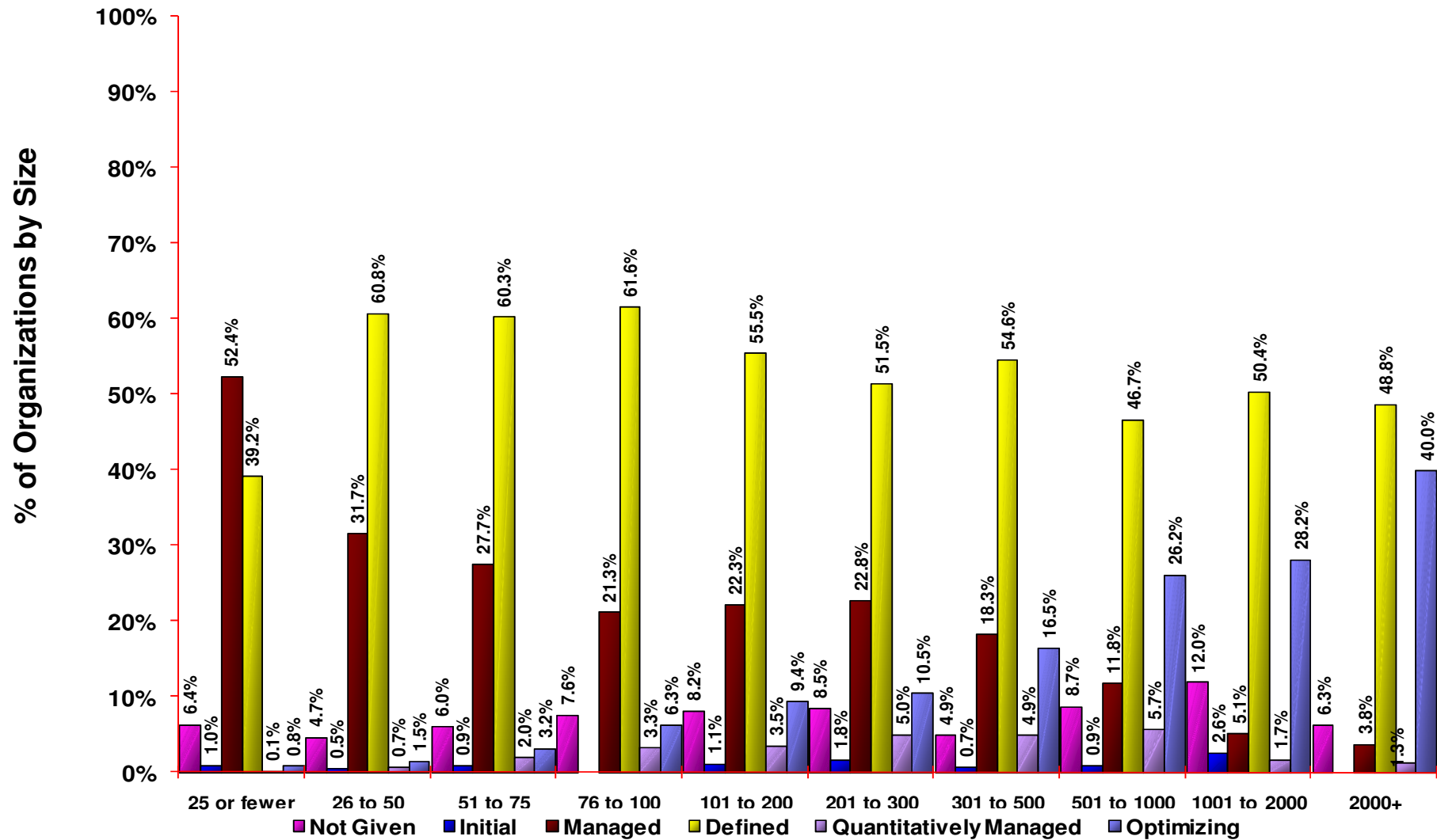


Based on 4423 organizations reporting size data



# Maturity Profile by Organization Size

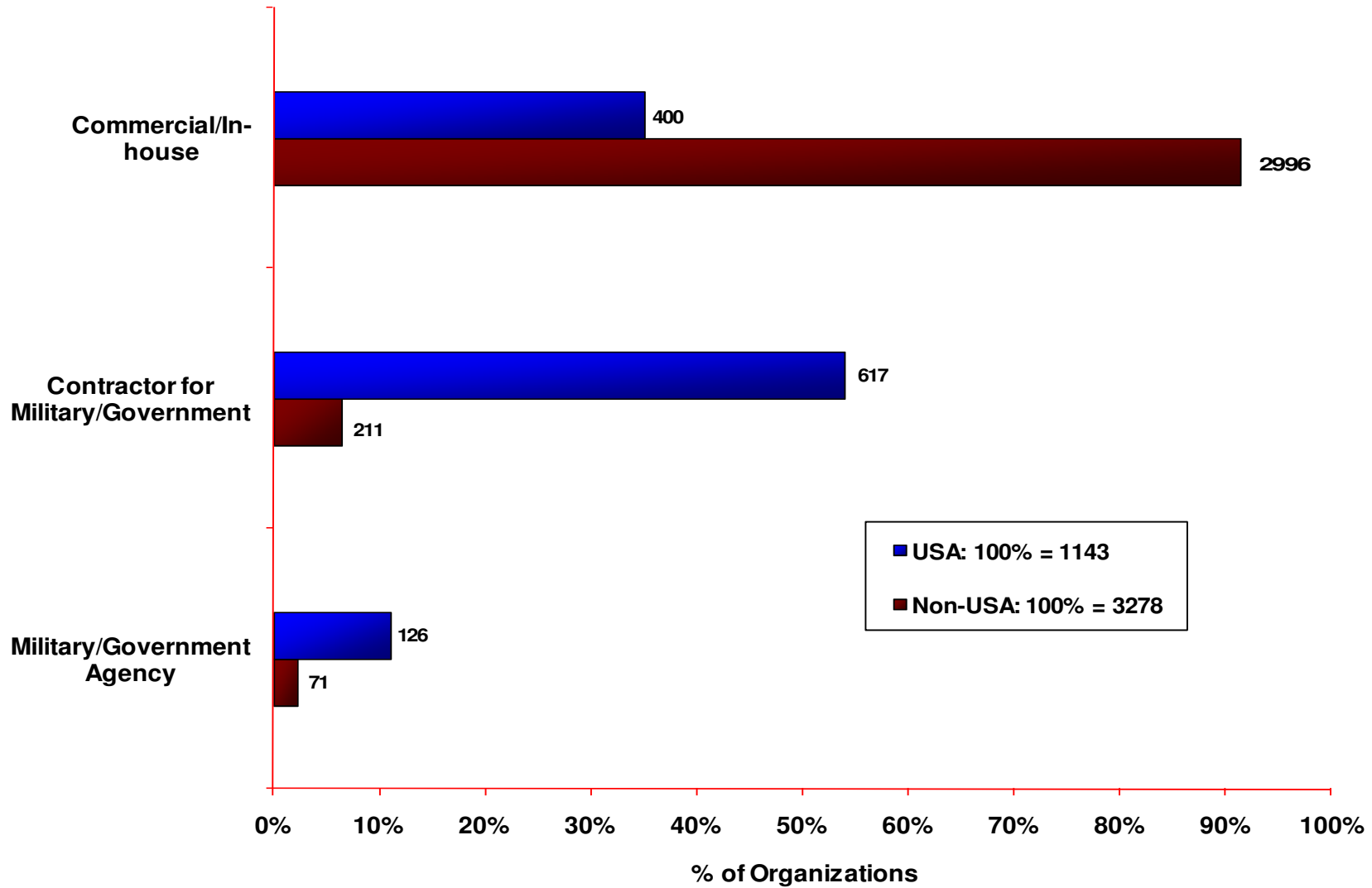
Based on the total number of employees within the area of the organization that was appraised



Based on 4423 organizations reporting size data



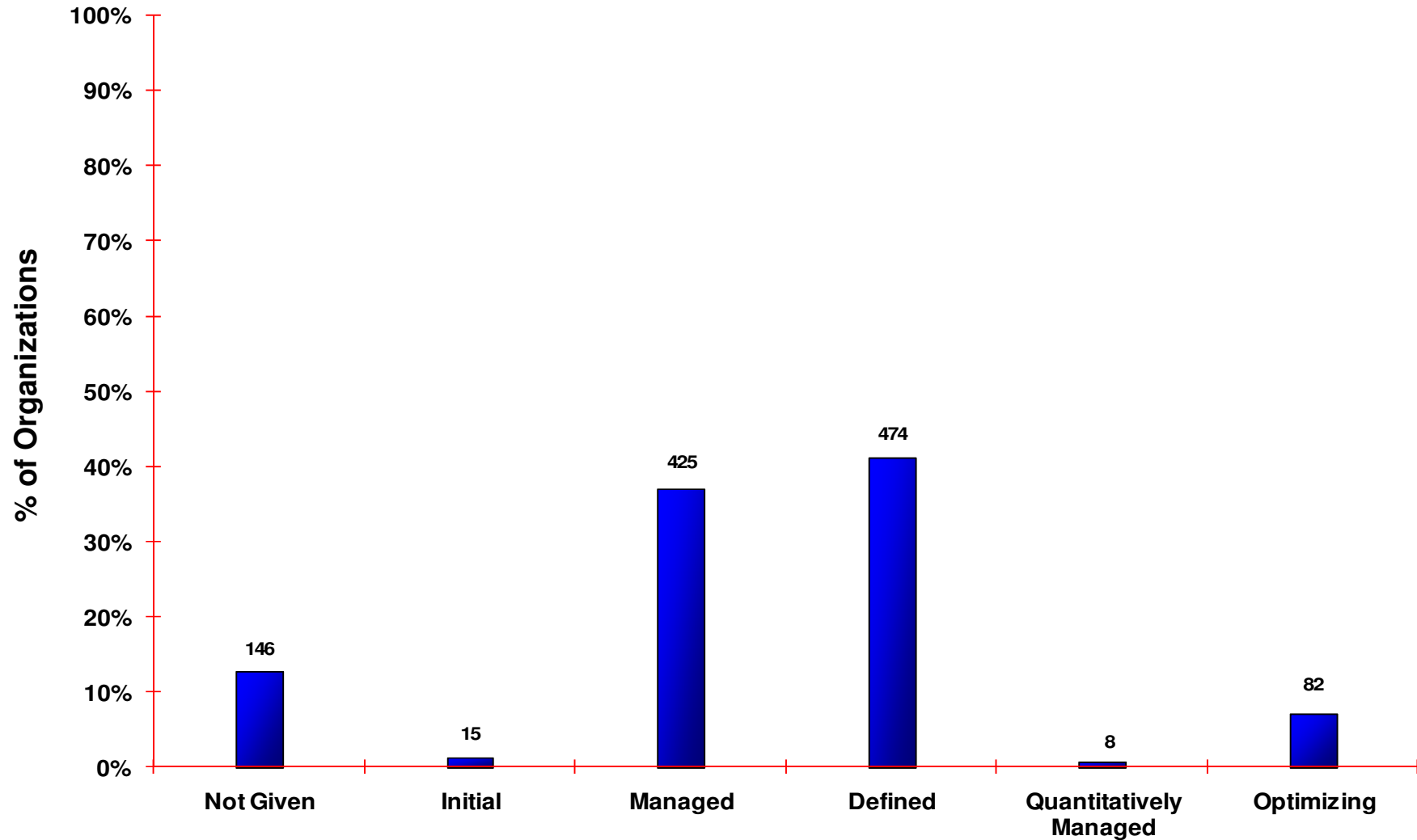
# USA and Non-USA Reporting Organization Categories



Based on **1143** USA organizations and **3278** Non-USA organizations reporting an organization category



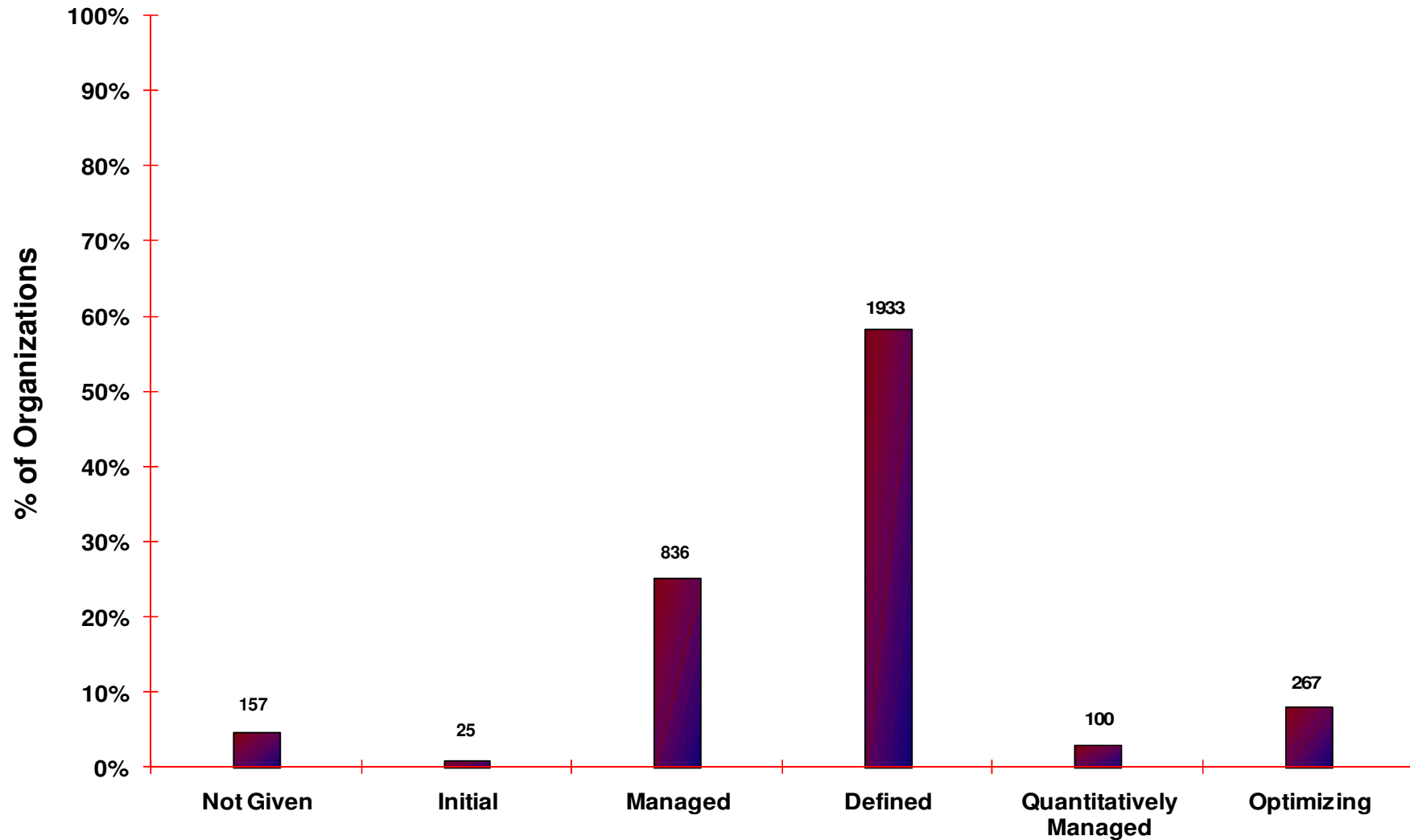
# Maturity Profile by All Reporting USA Organizations



Based on 1150 USA organizations



# Maturity Profile by All Reporting Non-USA Organizations



Based on 3318 Non-USA organizations



## Section 2: Community Trends

**Appraisals conducted through December 2009 and reported to the SEI by January 2010**

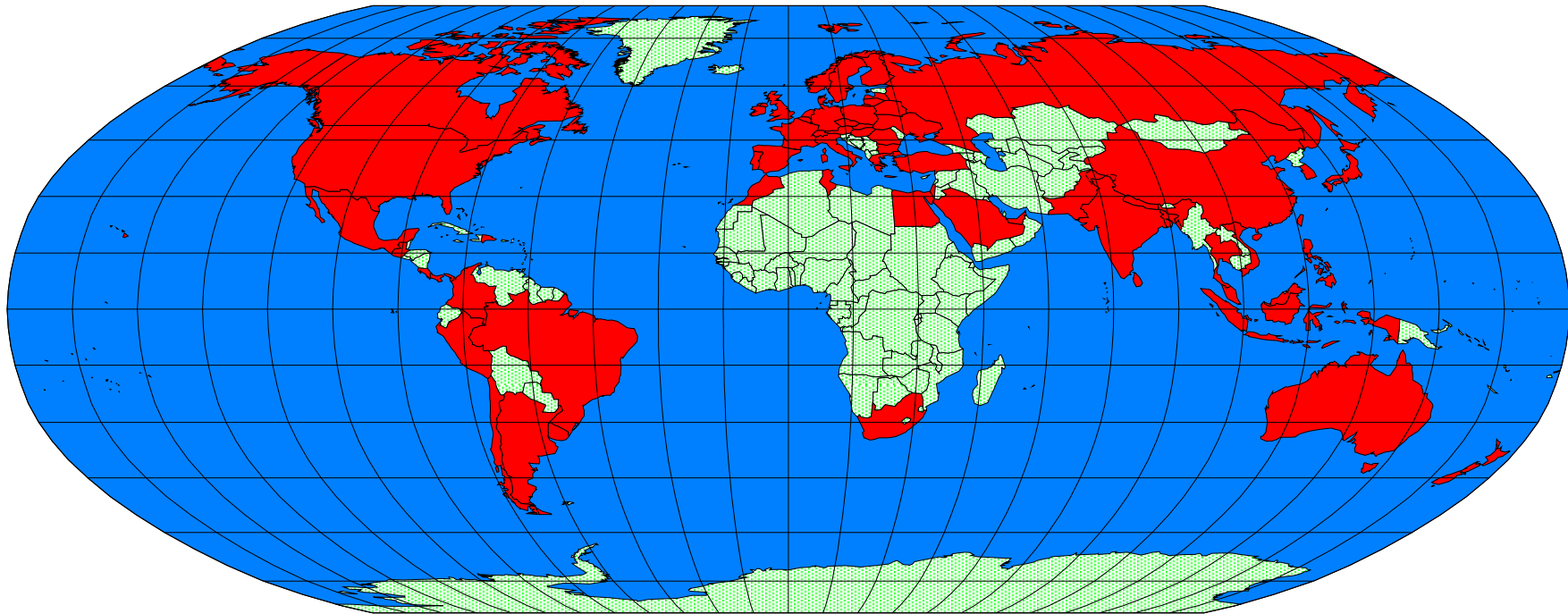
- **69 Countries reported appraisals**
  - most of the appraisals are from Asia and North America
- **4607 Appraisals posted on PARS**
  - expired appraisals are removed from PARS and replaced with the newest reappraisal result

**Please refer to: Terms Used in this Report on page 27**





# Countries where Appraisals have been Performed and Reported to the SEI

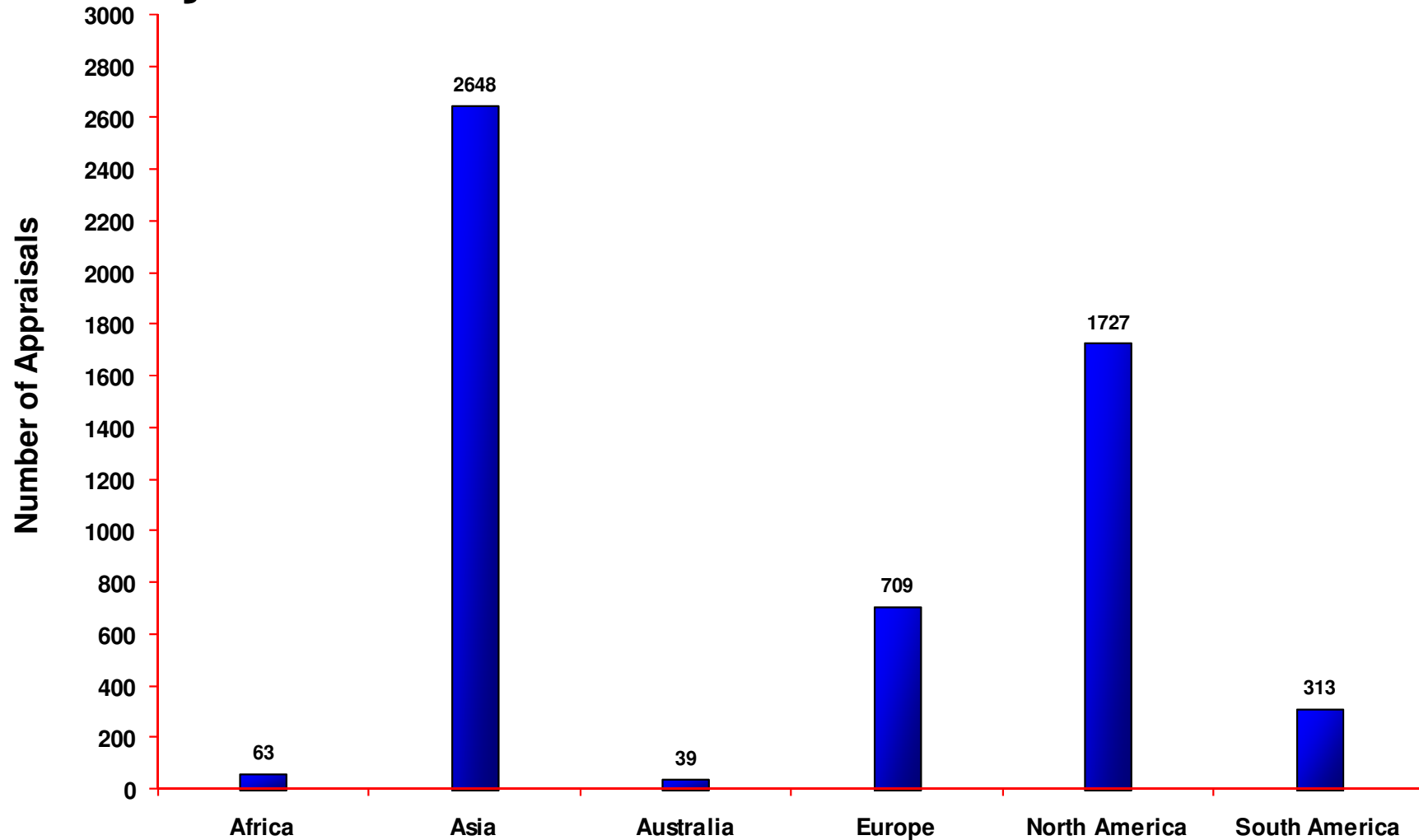


Argentina	Australia	Austria	Bahrain	Bangladesh	Belarus	Belgium	Brazil
Bulgaria	Canada	Chile	China	Colombia	Costa Rica	Czech Republic	Denmark
Dominican Republic	Egypt	Finland	France	Germany	Greece	Guatemala	Hong Kong
Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Korea, Republic Of
Latvia	Lithuania	Luxembourg	Malaysia	Mauritius	Mexico	Morocco	Nepal
Netherlands	New Zealand	Norway	Pakistan	Panama	Peru	Philippines	Poland
Portugal	Romania	Russia	Saudi Arabia	Singapore	Slovakia	South Africa	Spain
Sri Lanka	Sweden	Switzerland	Taiwan	Thailand	Tunisia	Turkey	Ukraine
United Arab Emirates	United Kingdom	United States	Uruguay	Viet Nam			

\* Red country name: New additions with this reporting since Sep.2009



# Number of Appraisals Reported to the SEI by Continent



Based on 5499 appraisals

\* North America includes Canada, the USA, and Mexico; South America includes Central America and the Caribbean ; Australia includes New Zealand

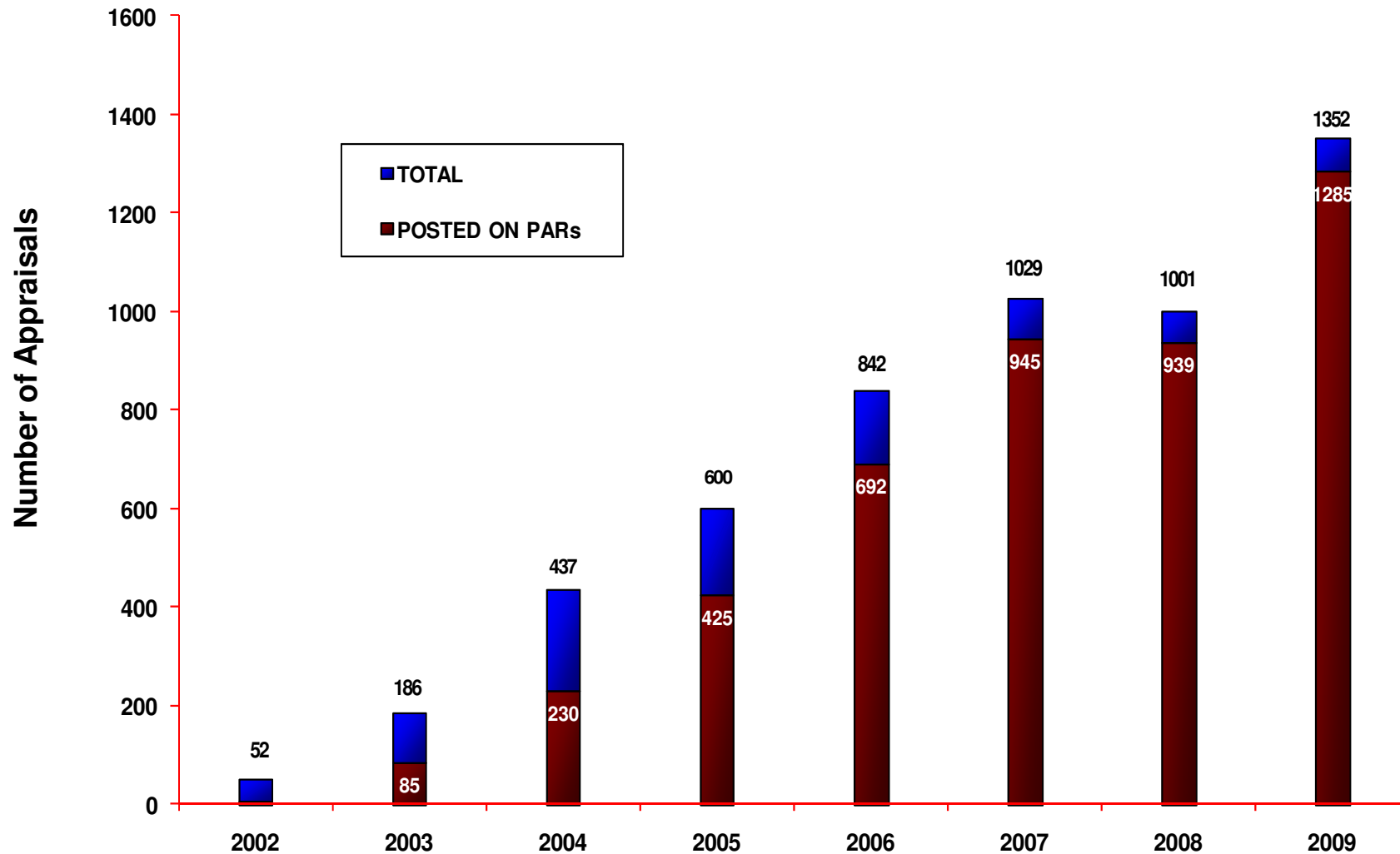


# Number of Appraisals and Maturity Levels Reported to the SEI by Country

Country	Number of Appraisals	Maturity Level 1 Reported	Maturity Level 2 Reported	Maturity Level 3 Reported	Maturity Level 4 Reported	Maturity Level 5 Reported	Country	Number of Appraisals	Maturity Level 1 Reported	Maturity Level 2 Reported	Maturity Level 3 Reported	Maturity Level 4 Reported	Maturity Level 5 Reported
Argentina	77		50	18	2	4	Malaysia	71		22	43		6
Australia	36	1	8	7	2	4	Mauritius	10 or fewer					
Austria	10 or fewer						Mexico	86		36	39	3	6
Bahrain	10 or fewer						Morocco	10 or fewer					
Bangladesh	10 or fewer						Nepal	10 or fewer					
Belarus	10 or fewer						Netherlands	14		5	7		1
Belgium	10 or fewer						New Zealand	10 or fewer					
Brazil	144	1	71	57	1	11	Norway	10 or fewer					
Bulgaria	10 or fewer						Pakistan	28	1	21	4		1
Canada	59	1	16	24	5	4	Panama	10 or fewer					
Chile	37		22	12		2	Peru	10 or fewer					
China	1229	1	135	987	36	48	Philippines	23		2	11		8
Colombia	34		12	13	3	2	Poland	10 or fewer					
Costa Rica	10 or fewer						Portugal	14		5	7		1
Czech Republic	10 or fewer						Romania	10 or fewer					
Denmark	10 or fewer						Russia	11			3	3	4
Dominican Republic	10 or fewer						Saudi Arabia	10 or fewer					
Egypt	43	1	22	12	2	3	Singapore	21		4	11	1	4
Finland	10 or fewer						Slovakia	10 or fewer					
France	168	4	98	53	1	2	South Africa	10 or fewer					
Germany	76	9	37	15	1	1	Spain	180	1	108	54	3	4
Greece	10 or fewer						Sri Lanka	14		2	12		
Guatemala	10 or fewer						Sweden	10 or fewer					
Hong Kong	18		2	11		5	Switzerland	10 or fewer					
Hungary	10 or fewer						Taiwan	134	1	76	51	2	2
India	524		17	278	24	189	Thailand	38		12	24		1
Indonesia	10 or fewer						Tunisia	10 or fewer					
Ireland	11		2	4			Turkey	16			14		2
Israel	19		3	11		3	Ukraine	10 or fewer					
Italy	43		19	20			United Arab Emirates	10 or fewer					
Japan	306	18	86	140	13	17	United Kingdom	113	3	50	35	1	4
Korea, Republic Of	165	1	55	75	15	8	United States	1582	30	564	610	23	141
Latvia	10 or fewer						Uruguay	10 or fewer					
Lithuania	10 or fewer						Viet Nam	17			12	2	3



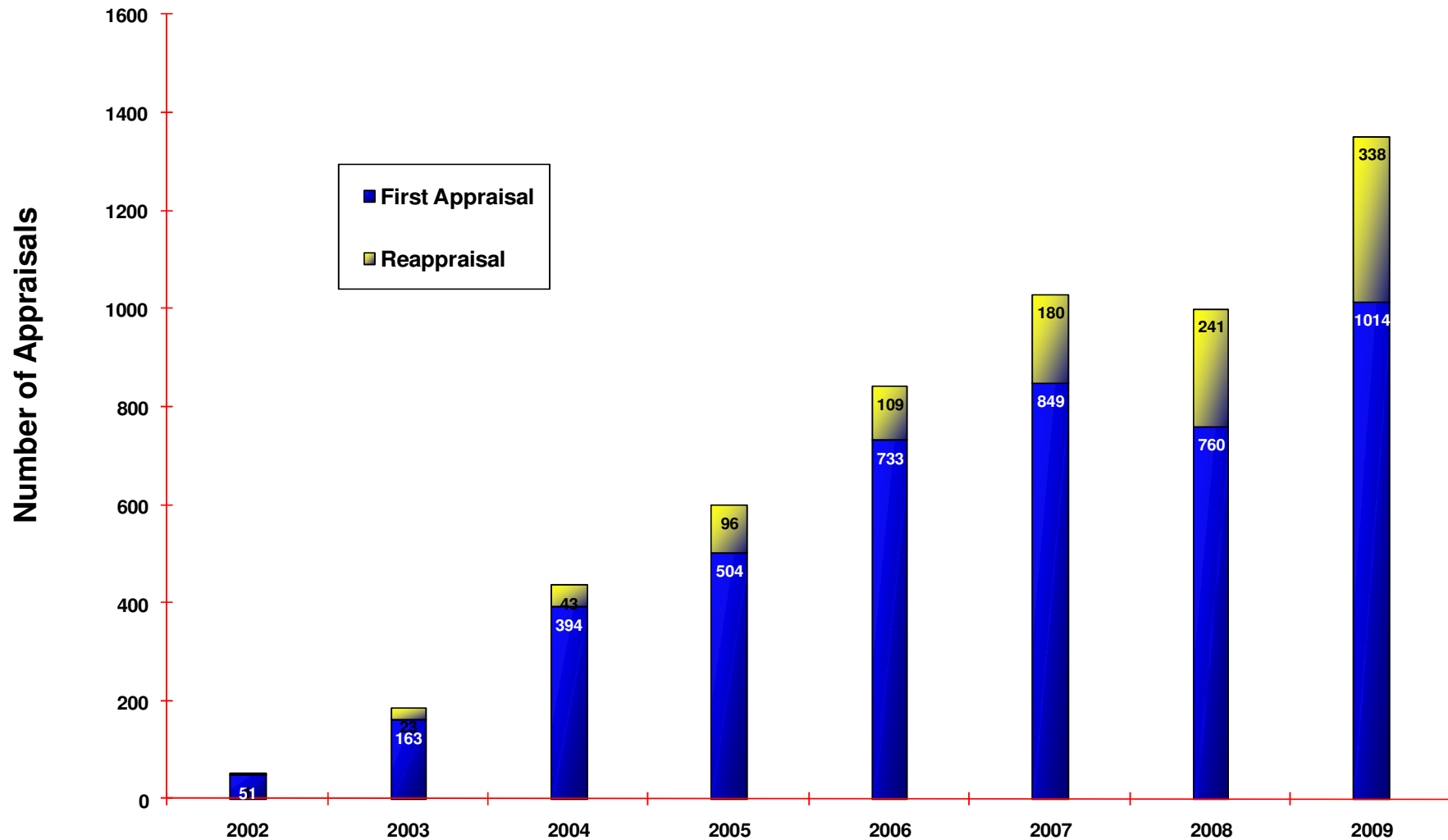
# Number of SCAMPI A Appraisals Reported to SEI by Year



Based on 5499 appraisals



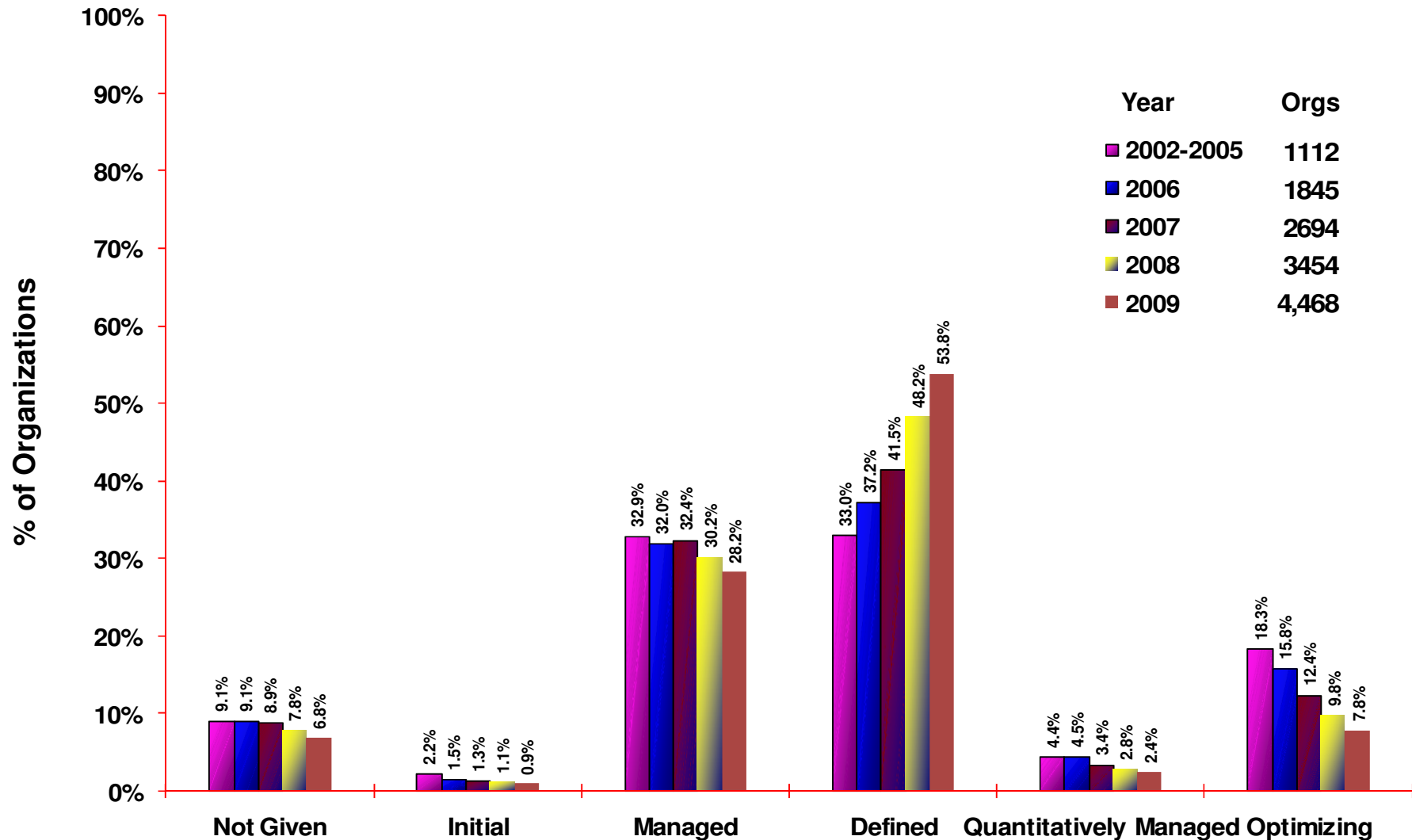
# Number of SCAMPI A Appraisals Reported to SEI by Year



Based on 5499 appraisals



# Trends in the Community Maturity Profile



Based on a cumulative view of the most recent appraisals of organizations up through the year indicated



## Section 3: Organizational Trends

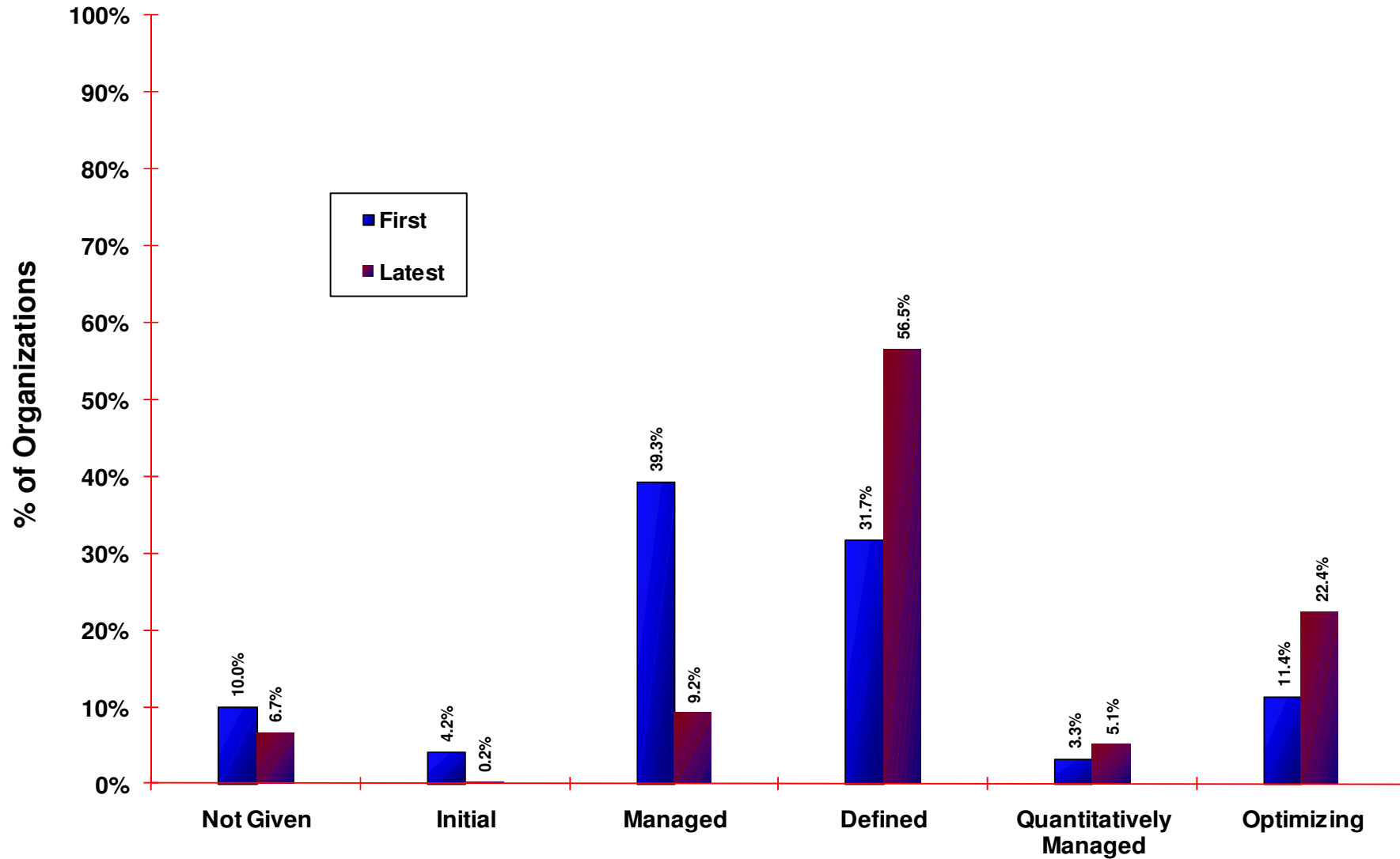
**Appraisals conducted through Dec 2009 and reported to the SEI  
By Jan 2010**

- **1437 Process Area (PA) profiles**
  - **satisfaction of PAs by maturity level for organizations appraised at levels 1 and 2**
- **826 reappraised organizations**
  - **accounting for 1,857 appraisals**
  - **although some organizations conducted multiple reappraisals, only the first and latest appraisals were used in creating the charts on pages 25**

**Please refer to: Terms Used in this Report on page 27**



# Maturity Level of First and Latest Appraisal

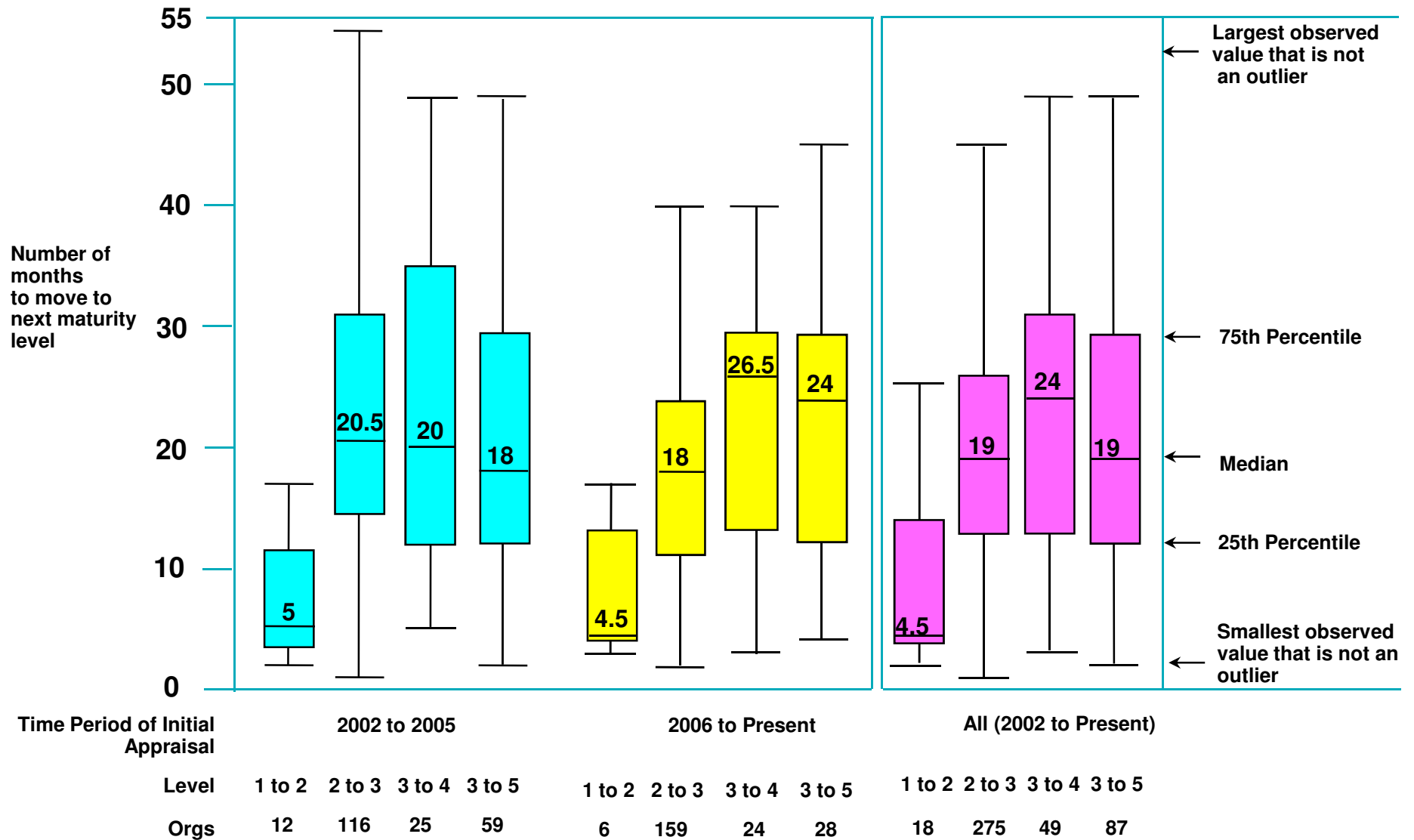


Based on 827 reappraised organizations using their first and latest appraisal





# Time to Move Up





# Summary

**5499 appraisals have been reported to the SEI in 94 months**

**Outside the USA: China, Brazil, Mexico, Spain, Argentina, France, and Malaysia reported appraisals are increasing at a rapid rate**

**The appraised organization for service sector are more than 70 %**

**The percentage for the appraised organization unit size smaller than 100 is increasing steadily**

**The percentage of Maturity level 3 organization is increasing steadily**



## Summary - 2

**For organizations that began their CMMI-based SCAMPI effort in 2002 or later, the median time to move from:**

- **maturity level 1 to 2 is 4.5 months**
- **maturity level 2 to 3 is 19 months**
- **maturity level 3 to 4 is 24 months**
- **maturity level 3 to 5 is 19 months**

**Note:**

**Since the March 2009 report, the median time to move from maturity level 1 to 2 increased from 4 months to 4.5 months. the median time to move from maturity level 2 to 3 increased from 18.5 months to 19 months. The median time to move from maturity level 3 to 4 increased from 19 months to 24 months , the median time to move from maturity level 4 to 5 is replaced by the information of the the median time to move from maturity level 3 to 5. Also, for all maturity level, the 25<sup>th</sup> percentile and the 75th percentile time frame needed to move up to next level are increasing significantly**



# Terms Used in this Report

- Company** - Parent of the appraised entity  
A company can be a commercial or non-commercial firm, for-profit or not for-profit business, a research and development unit, a higher education unit, a government agency, or branch of service, etc.
- Organization** - a.k.a. Appraised entity  
The organization unit to which the appraisal results apply. An appraised entity can be the entire company, a selected business unit, units supporting a particular product line or service, etc.
- Non-USA** - Appraised entity whose geographic location is not within the United States. The parent of the appraised entity may or may not be based within the United States.
- PARS** - Published Appraisal Results webpage contains CMMI® appraisals published at the request of the appraisal sponsor.  
The link is: <http://sas.sei.cmu.edu/pars/>



# Report your Appraisal Results to the SEI

**The briefing is only possible due to the cooperation of organizations and individuals sending in their appraisal results to the SEI**

**In order to provide this information and service in the future, it will depend on this continued cooperation**

**Please visit:**

**<http://www.sei.cmu.edu/cmml/casestudies/profiles/cmml.cfm>**

**for forms, information, and instructions on how to report appraisals to the SEI**



# Contact Information

Please visit:

<http://www.sei.cmu.edu/cmmi/casestudies/profiles/cmmi.cfm>

and review the information provided before contacting:

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SEI FAX number	(412) 268-5758

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