



This brochure provides a description of our capability, the services we provide, and our experience in business improvement. The brochure also contains a Frequently Asked Questions section, which provides valuable information and answers to commonly asked questions regarding business improvement.

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Capability statement

S-3 will assist your organisation in meeting strategic goals and objectives through tailored improvement solutions. We advocate the proven method of internally generated improvement rather than adopting externally created 'out of the box' solutions.

S-3 services are relevant to any organisation where process repeatability is required to ensure that quality products or services are delivered or obtained. S-3 has experience in providing services to:

- Product developers
 - Service providers
 - Information, communication and telecommunication organisations
 - Acquisition organisations
 - Sustainment organisations
 - Regulatory agencies.
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Services and benefits

The services S-3 provides include:

- Strategic planning
- Business improvement
- CMMI® training and consulting
- SCAMPISM appraisals
- +Safe training, appraisals and consulting
- PSM measurement training and implementation
- Cost and schedule estimation.

S-3 will assist your organisation by tailoring an improvement program to achieve benefits such as:

- Improved project performance
 - Reduced costs
 - Improved quality of products and services
 - Increased customer satisfaction
 - Improved working conditions.
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Approach to improvement

The key to genuine improvement is to align initiatives with your business goals and objectives. Your improvement program should assist your organisation in achieving its strategic needs, and is an enabler rather than an end in itself.

This explicit link between strategic planning and improvement has been proven to result in greater opportunities for integration, reduced duplication, capability augmentation and higher returns on investment. This compares with the more common approach of instigating isolated initiatives, which typically result in localised benefits and correspondingly lower returns on investment.

S-3's approach is to first assist you with establishing or updating your strategic plans. This is then used to derive your improvement needs, which in turn drive your improvement program.

S-3 does not sell change or 'out of the box' solutions. We use our experience to tailor improvement solutions that meet your needs. We harness the capability that already exists within your organisation and build on this foundation.

Our role is to provide you with independent and objective facilitation. Our experience has shown that this approach leads to genuine, long-lasting, and cost-effective improvement.

Experience and achievements

S-3 consultants bring extensive experience and achievements in consulting for improvement, including:

- Conducting CMMI® based appraisals and improvement programs
 - Being among the key members of the team responsible for developing and using the +Safe safety process extension to the CMMI®
 - Implementing PSM based measurement services, including training, workshop facilitation, and implementation guidance
 - Consultation to national and international industry and government organisations
 - Managing and implementing best practice initiatives, including CMMI®, measurement, estimation, safety, risk management, acquisition management, software engineering, and systems engineering
 - Developing CMMI®, measurement, acquisition management, software engineering, and systems engineering process assets
 - Presentations on best practice techniques and applications at leading conferences.
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Frequently asked questions

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1. What is CMMI® and who uses it?

The CMMI® is an internationally recognised process reference model describing world's best practice. It covers:

- Process management (including process definition, improvement, and training)
- Project management (including planning, tracking and oversight, and risk management)
- Engineering (practices that describe the full systems and software engineering activities)
- Supporting activities (including configuration management, quality, measurement, and decision-making)
- Supplier management
- Integrated teaming.

The CMMI® was developed by a team led by the Software Engineering Institute (SEI), with broad and diverse representation from industry, government and academia. This has resulted in practices that have wide applicability. It has been used successfully to appraise and improve processes for:

- Product developers
 - Service providers
 - Information technology organisations
 - Communications organisation
 - Acquisition and sustainment organisations
 - Procurement organisations
 - Logistics organisations
 - Regulatory agencies.
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2. How is CMMI® used in process improvement?

The CMMI® is a reference frame that is used for process benchmarking. This is done during formal process evaluations (such as SCAMPISM appraisals) and within process improvement programs. The CMMI® provides valuable insight into the effectiveness of an organisation's processes, as it not only describes best practice requirements but also looks at how effectively processes are being used. Refer to Figure 1 for an example appraisal output (Process Capability Profile).

3. What is SCAMPISM?

The SCAMPISM (Standard CMMI® Appraisal Method for Process Improvement) was developed by the SEI to be used with the CMMI® for process benchmarking. Appraisals conducted by authorised lead appraisers are recognised by the SEI and can be used for demonstrating process capability and supporting improvement.

4. Does CMMI® based improvement apply to me?

Process improvement applies to organisations where process repeatability is required to ensure a quality product or service. The CMMI® has been successfully used by numerous organisations to ensure quality is built into processes.

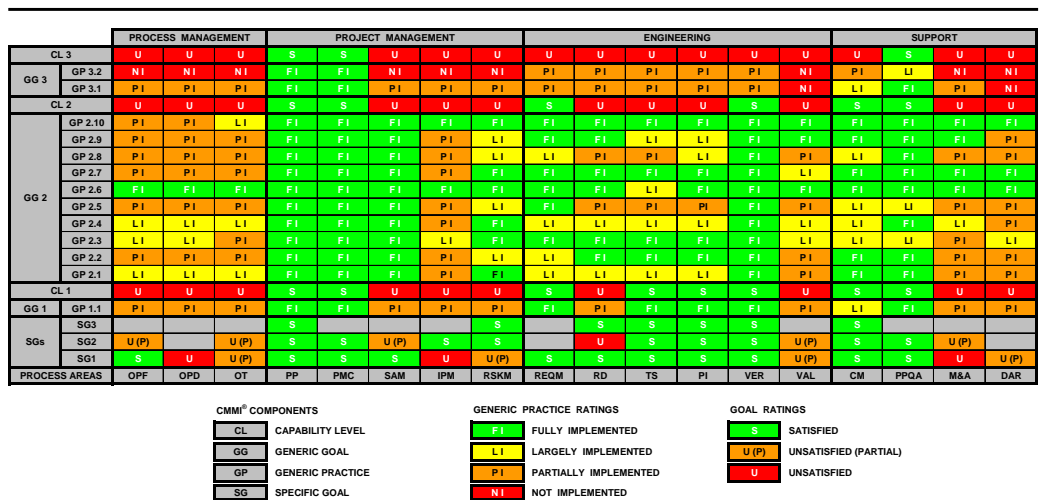


Figure 1 – Example Process Capability Profile

5. How can CMMI® assist my organisation?

The CMMI® assists an organisation by identifying how to get its processes right the first time. CMMI® based improvement enhances the quality of products and services by defining standard processes based on best practice. These processes codify a consistent approach to doing business.

A set of processes that meet best practice have a direct influence on increasing organisational stability, where staff have a clear understanding of how to get the job done. This results in an increase in productivity and a reduction in overheads as effort in non-value adding activities (such as rework, defect rectification and problem reaction) is minimised.

Very often an organisation's processes are established in isolation from its goals and objectives. S-3's method of aligning process needs to goals and objectives, then using the CMMI® in defining and improving processes, assists an organisation in achieving its goals and objectives. Refer to Figure 2 for S-3's recommended approach for process definition.

An explicit link between strategic planning and improvement initiatives is crucial for success. S-3's approach is to assist with establishing improvement needs, which have been derived from strategic goals and objectives. When coupled with a process architecture, this drives the organisation's improvement program (refer to Figure 3).

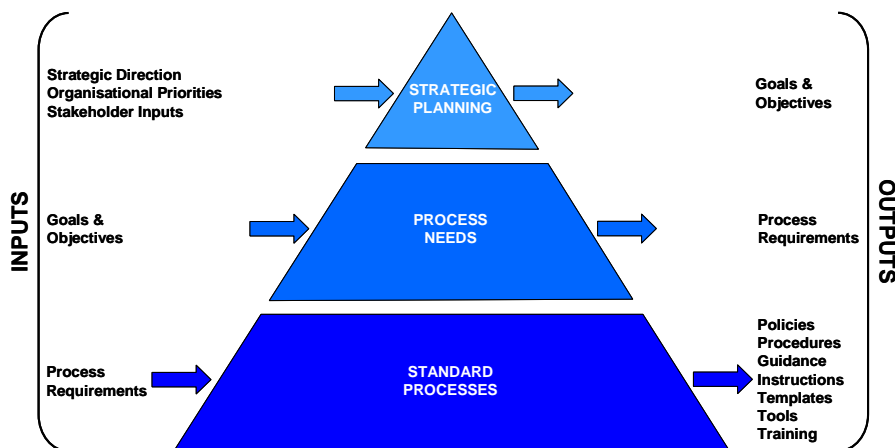


Figure 2 – Process Definition Approach

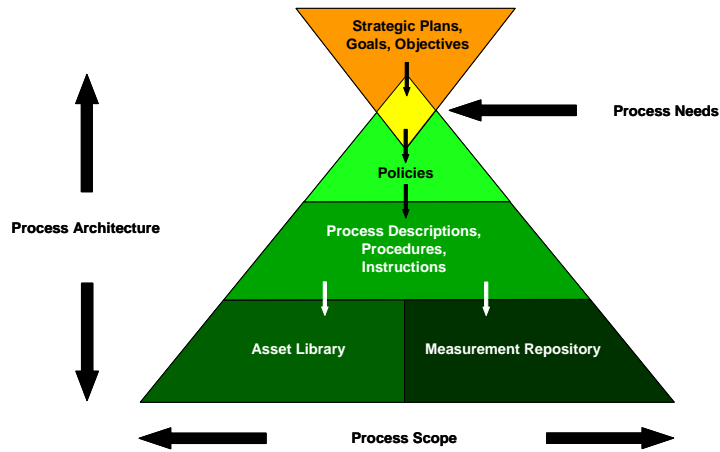


Figure 3 – Process Definition Inputs

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6. What benefits can I expect?

Organisations who implement CMMI® based improvement programs report both qualitative and quantitative benefits. These include:

- Better control of requirements changes
- Increased effectiveness in risk management
- Earlier identification and removal of defects
- Increased customer satisfaction
- Improved working conditions with fewer overtime hours
- Improved employee morale with reduced staff turnover.

In a study published by the Software Engineering Institute*, several organisations also reported cost, schedule, quality and customer satisfaction benefits resulting from their CMMI® based improvement programs.

* Extracted from Special Report CMU/SEI-2003-SR-009 "Demonstrating the Impacts and Benefits of CMMI®. An update and Preliminary Results", D. R. Goldenson and D. L. Gibson.

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7. How long will it take before I see benefits?

Most organisations see benefits soon after improvement activities have commenced. These typically include improvements in planning and stakeholder management. Further improvements are usually observed in the following areas within 6 to 24 months of commencing improvement:

- Project planning
- Project tracking and oversight
- Risk management
- Requirements management
- Defect reduction.

Increases in productivity and stakeholder satisfaction, further reductions in overheads and greater attainment of strategic needs are normally observed 12 to 18 months thereafter. These are due to:

- Increased process standardisation
- Improved decision making
- Increased innovation and improved management
- Defect avoidance
- Increased use of historical data resulting in improved estimation, planning and oversight.

The exact timing of such benefits is particular to each organisation and is dependent on factors such as commitment, resourcing, funding, priorities, and strategic needs. S-3 will help prioritise and plan your improvement initiatives in order to maximise returns on investment.

8. Will this add unnecessary complication?

In most cases, this question is asked because it is perceived that process improvement is about adding documentation. It is important to make a distinction between the quality of a process and the quantity of documentation. The latter seldom results in the former. This is depicted in Figure 4.

The quality of a process is demonstrated not only by its content but also by its use. An unnecessarily long and complicated process description often results in employees not following it, making it next to useless. To ensure that a process is adhered to, it must be easy to understand.

S-3 uses its CMMI® knowledge and expertise to help its clients achieve cost-effective and optimised improvement by following the path of least resistance, as demonstrated in Figure 5.

It is important to note that the complexity of a process is dependent on the particular business environment, not on meeting the intent of best practice. For instance, developing a complex safety critical system requires a different level of process rigour compared with a sales and inventory management system, despite best practice being met in both cases. Figure 6 further illustrates this point. S-3 can help you identify practical ways of achieving best practice in your organisation.

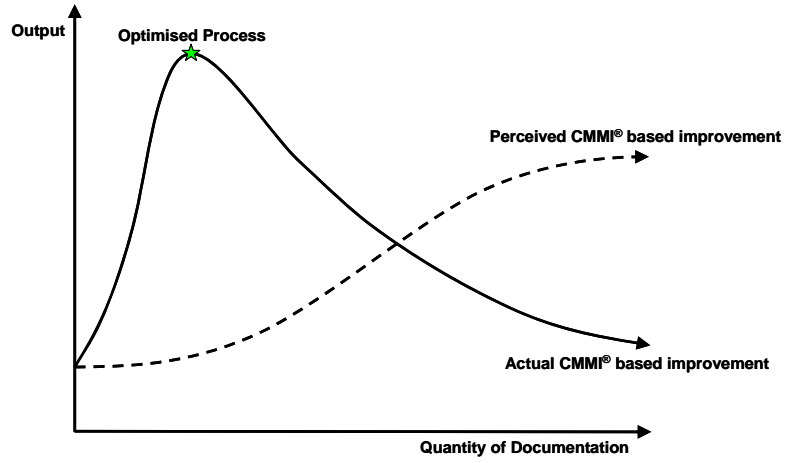


Figure 4 –The CMMI® 'Process Quantity Myth'

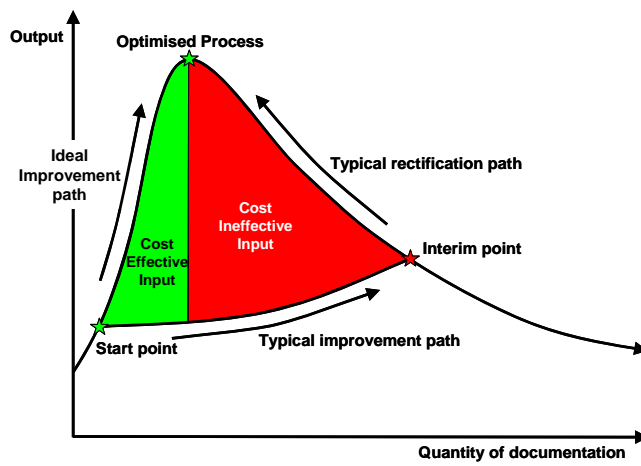


Figure 5 – Process Quantity vs. Quality

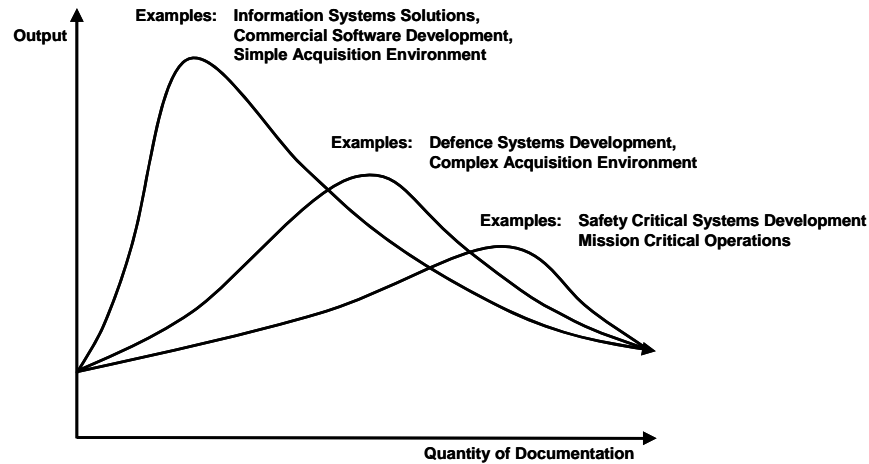


Figure 6 – Quantity vs. Business Environment

9. Where do I start if I don't have any standard processes?

For many reasons (primarily commercial, budgetary and schedule pressures), an organisation can find itself in the situation of deferring improvement initiatives. In many cases, the first time this challenge is faced is when a significant stakeholder (such as senior management or a customer) requires it or when competitive pressures dictate it.

This can leave the organisation feeling helpless as it faces a large problem with little in the form of viable and cost-effective solutions. In such situations, the CMMI® can be used as a reference document to address your organisation's immediate needs as well as providing you with a roadmap for future improvement activities.

If your organisation is starting from scratch, S-3 always advocates the 'start simple, start small' approach. All too often, organisations that are embarking on an improvement program will make things unnecessarily complicated and costly by trying to solve too much, too soon. S-3 will assist your organisation to determine the best starting point and establish a cost-effective improvement program. Refer to Figure 7 for an example Improvement Target Profile which identifies current process performance against improvement stages.

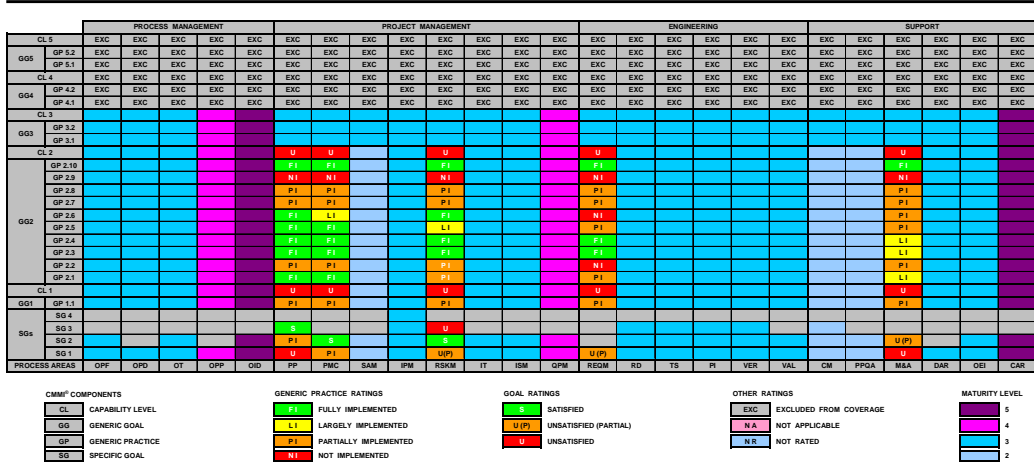


Figure 7 – Example Improvement Target Profile

10. Is this about wholesale process change?

No: often, the term Business Process Re-engineering (BPR) is used to describe wholesale process change. BPR initiatives typically replace one current process baseline with a new one. S-3's experience has shown that in many cases, this may result in instability and uncertainty while the organisation migrates away from the old processes to adjust to the new. Often the new process baseline will not bring the organisation any gains over and above the old one, yet will still come at a considerable cost, as shown in Figure 8.

For this reason S-3 prefers to help your organisation tailor an improvement program that meets your particular needs. Improvement is about just that; not change for change's sake. The approach that S-3 uses is to assist you in identifying how your current processes compare with best practice (i.e. the CMMI®) before any changes are instigated. Once the organisation knows its current processes performance (typically through a SCAMPISM appraisal), it needs to define where it wants to be, and take controlled steps to get there through a structured improvement program. This is demonstrated in Figure 9.

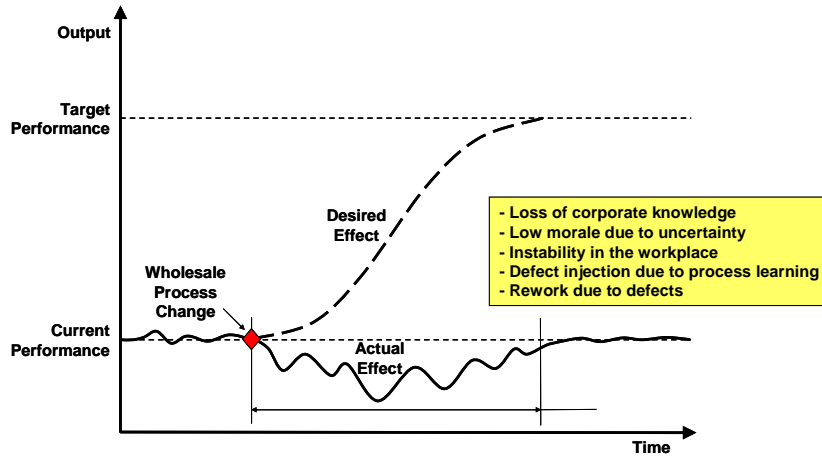


Figure 8 – Effect of Wholesale Process Change

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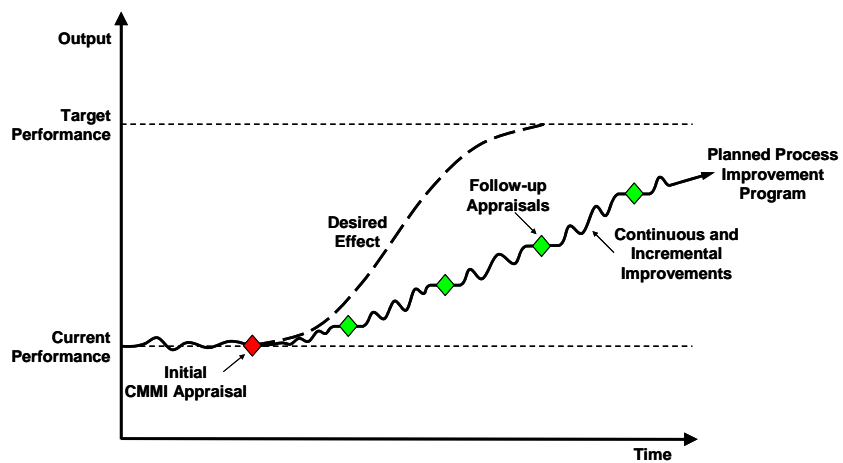


Figure 9 – Effect of CMMI® Based Process Improvement

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11. What if I already have a Quality Management System (QMS)?

A QMS typically embodies an organisation's set of standard processes, normally headed by a quality policy pointing to a set of operating procedures, instructions and process assets. A CMMI® based improvement program is not meant to conflict with the QMS nor is it meant to replace it. Rather, it should be used to improve the QMS by ensuring that the contents meet the intent of best practice.

12. Can CMMI® be used in an assurance framework?

Yes: although process compliance should still be conducted against applicable assurance standards and manuals (such as airworthiness, safety and security), organisations who need to comply with regulatory requirements can use the CMMI® to ensure that their process frameworks also meet the intent of best practice. In addition, regulatory agencies can use the CMMI® to identify required process capabilities, which in turn can be used to focus improvement. S-3 consultants have experience in advising organisations on the use of CMMI® within assurance frameworks and are able to assist you in tailoring a program to meet your assurance needs.

13. What is +Safe?

+Safe is an extension to the CMMI® covering best practice for safety management and engineering activities. It was developed by the Australian Department of Defence in conjunction with safety experts, and is based on contemporary safety standards. +Safe can be used stand-alone or with the CMMI®.

14. How can +Safe assist my organisation's safety activities?

Similar to the CMMI®, +Safe is used to benchmark an organisation's safety processes. It describes activities that are expected from a sound safety program. S-3 consultants have extensive knowledge in appraising and improving organisations' processes against +Safe, having been key members of the team that developed and validated it.

Note that +Safe is not intended for use in safety compliance assessments. Such activities would normally be conducted against an appropriate safety standard. +Safe is used to identify areas where an organisation's safety processes meet the intent of best practice.

15. What is PSM?

PSM is a flexible measurement process centred on identifying measurement requirements derived from information needs. The approach is not based on pre-determined graphs or reports but rather a top-down establishment of measurement requirements, derived from goals, objectives, risks, problems or issues. This results in cost-effective and pragmatic measurement. PSM defines an information needs-based analysis process to help organisations manage projects more effectively through pro-active risk mitigation rather than reactive problem resolution.

PSM is based on actual experience and is continually being improved by lessons collected from the PSM user community. As a transition partner for PSM, S-3 will assist in implementing effective measurement within your organisation. Our assistance includes measurement training, workshops, and implementation.

16. Why use PSM for measurement?

PSM provided the foundation for the Measurement and Analysis process area in the CMMI®. PSM was also the basis for the international standard for measurement (ISO 15939). A measurement program using the PSM process complies with ISO 15939 and meets the intent of measurement best practice as described in the CMMI®.

Notes
