



CMMI for Development

Webinar

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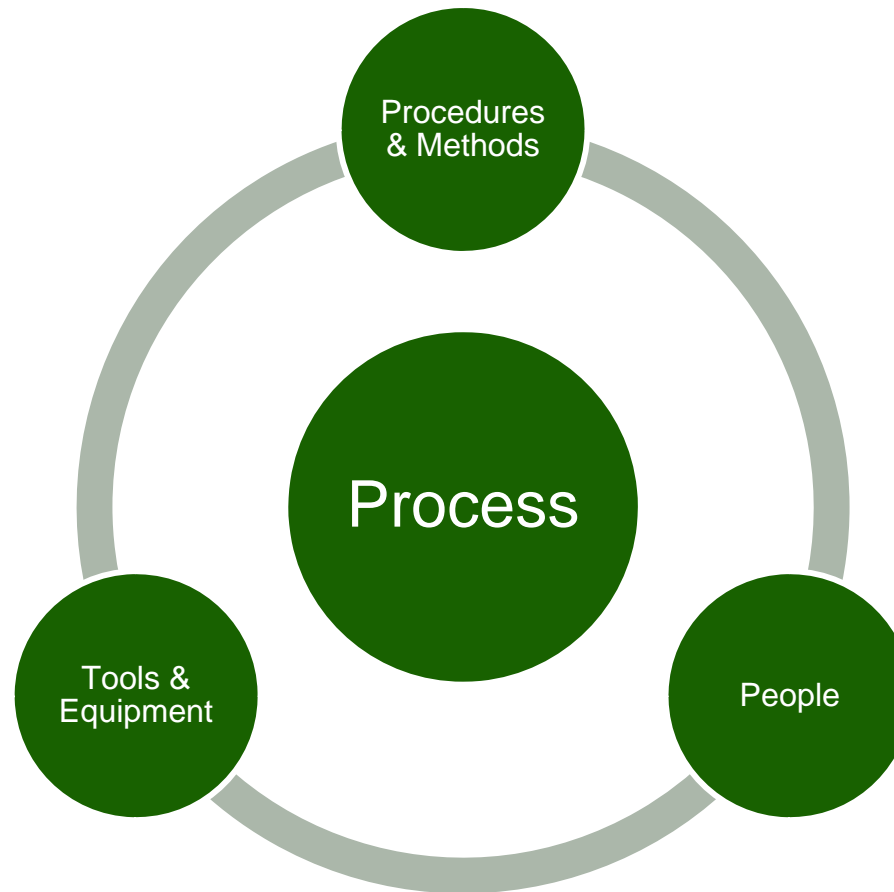
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What is CMMI for Development

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The Premise Behind the CMMI



The quality of a system is highly influenced by the quality of the process used to acquire, develop, and maintain it.

Capability Maturity Model Integration

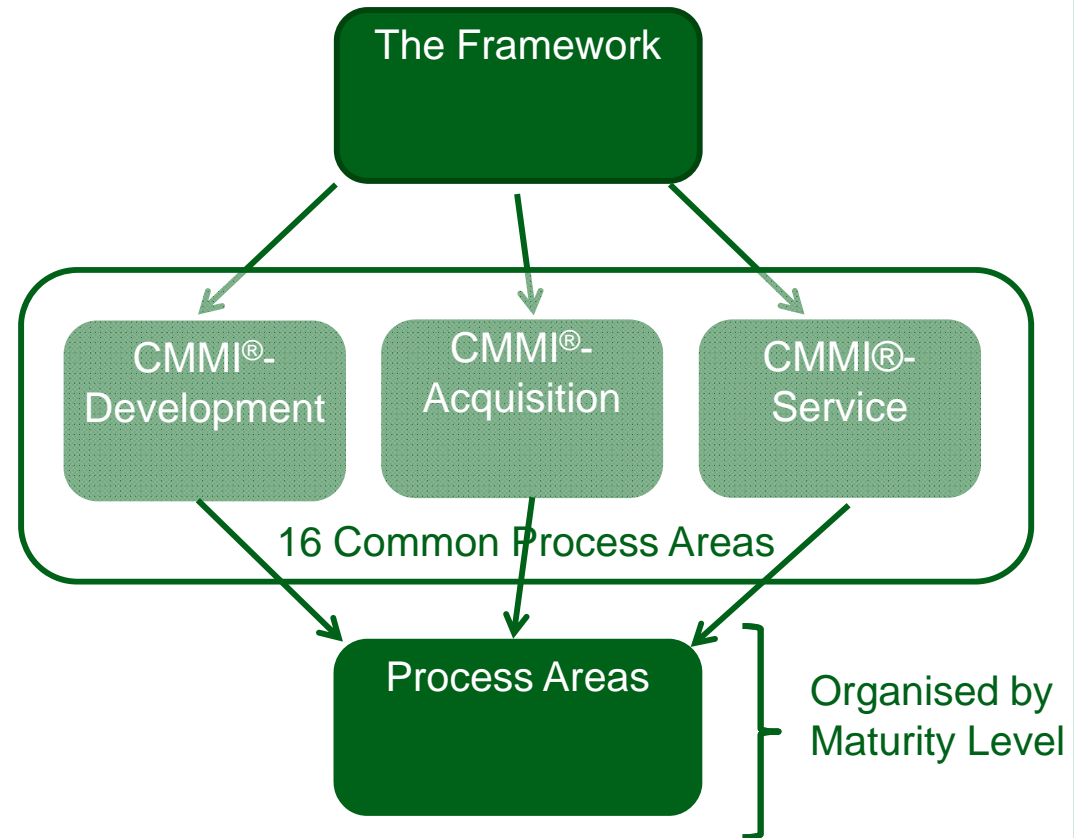
Appraisal
Method

Appraisals – What?

- Method called SCAMPI (3 Classes A, B, C)
- Lead Appraisers – trained & deeply experienced in its execution

Appraisals – Purpose?

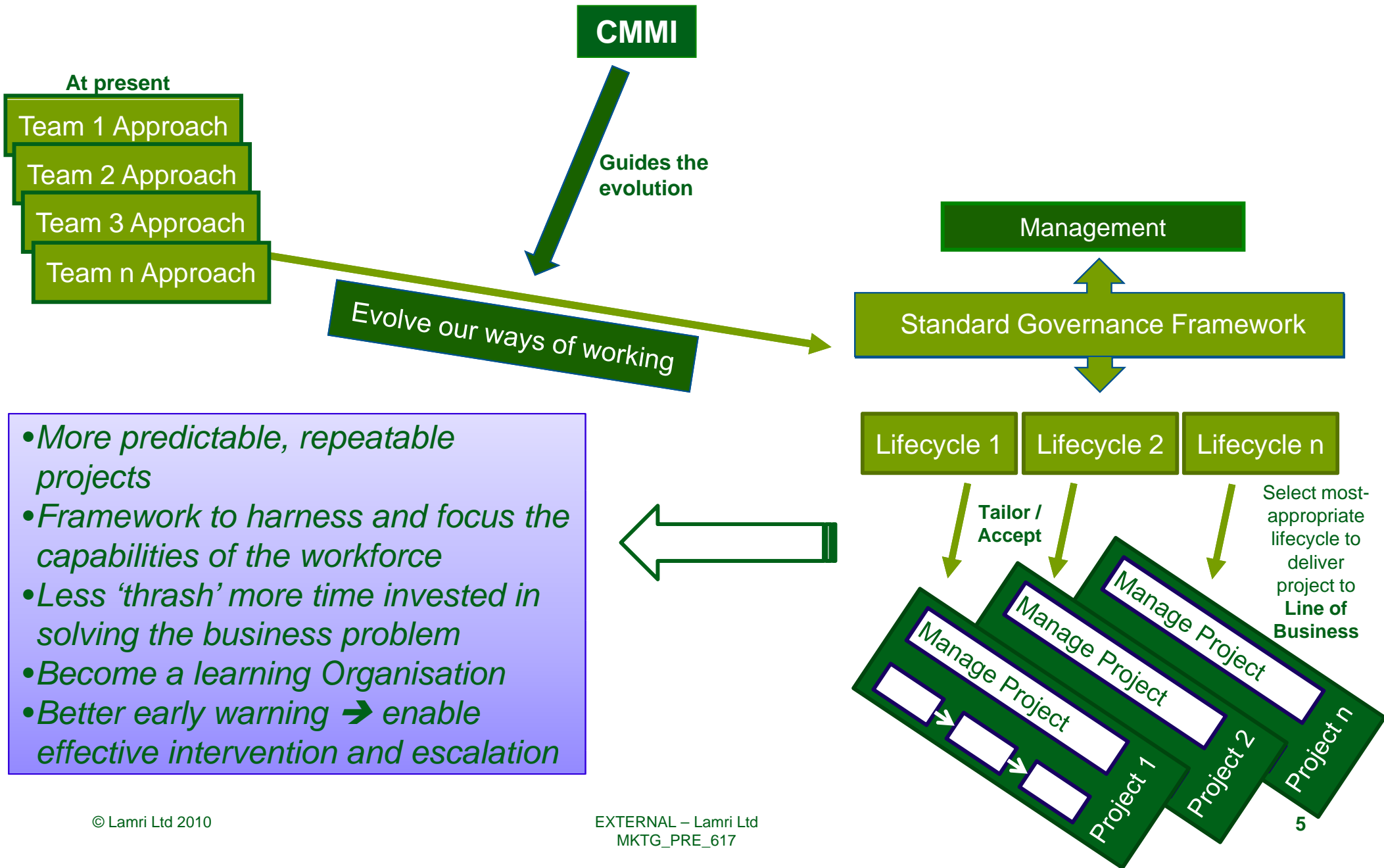
- Benchmark the running Organisation
- Allows an Organisation to articulate the gaps between actual and desired practice



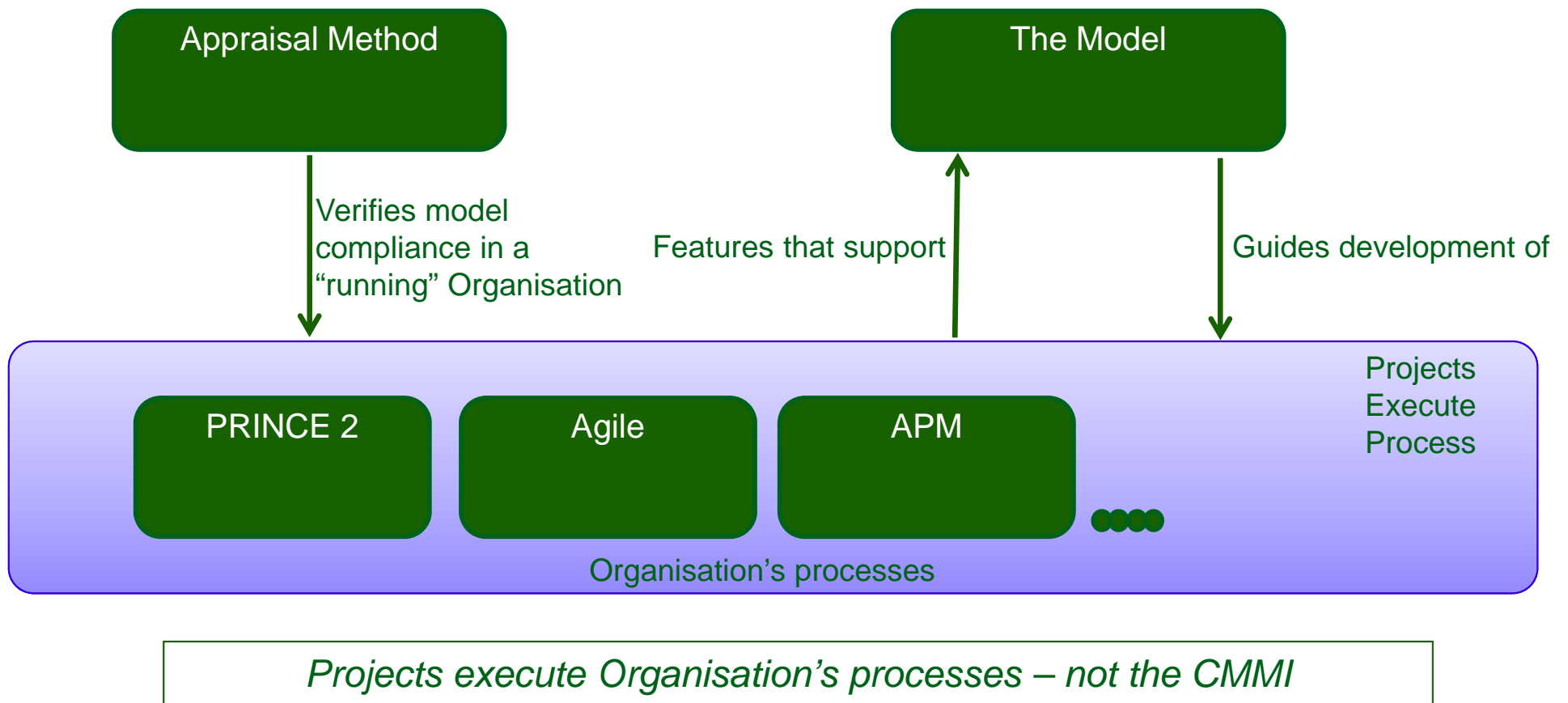
SCAMPI – Standard CMMI Appraisal method for Process Improvement

Over 14,000 projects have been officially assessed in more than 2,600 Organisations

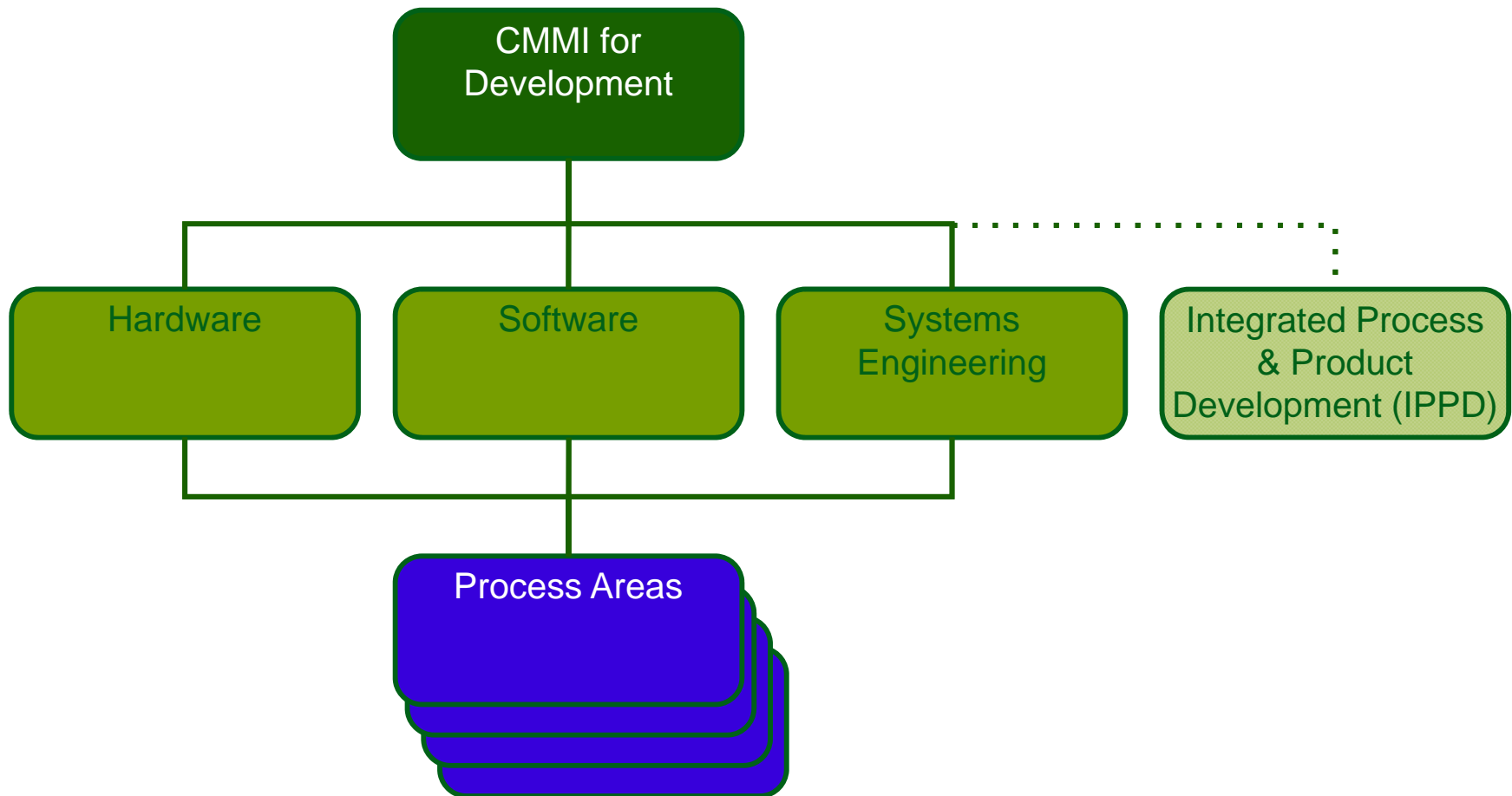
How CMMI® Can Help an Organisation Improve



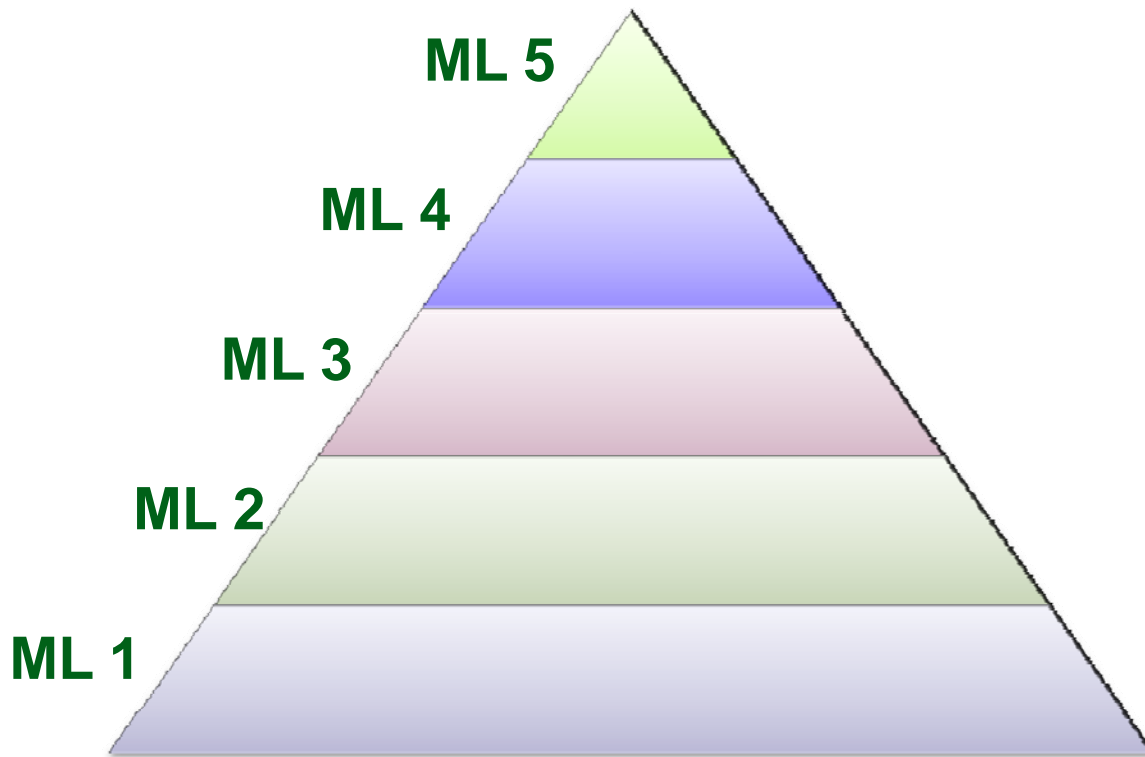
How CMMI® Fits With Development Processes



Basic Elements of the CMMI Model



Model Representations

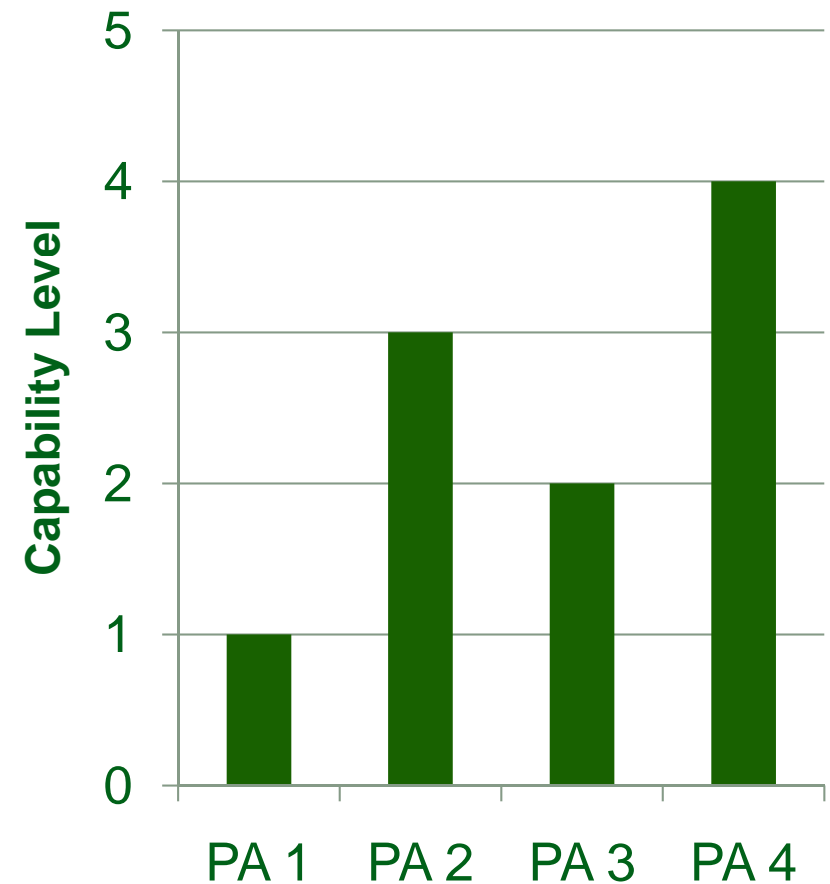


Staged

For measuring the Maturity Level : the same capability in a pre-defined set of Process Areas

Continuous

For measuring the Capability Level of one or more Process Areas



Process Areas

Staged Representation

MATURITY LEVEL	PROCESS AREAS						
5- OPTIMISING	Organisational Innovation & Deployment	Causal Analysis & Resolution					
4- QUANTITATIVELY MANAGED	Organisational Process Performance	Quantitative Project Management					
3- DEFINED	Organisational Process Focus	Organisation Process Definition	Organisational Training	Integrated Project Management	Risk Management		
	Technical Solution	Requirements Development	Product Integration	Validation	Verification	Decision Analysis & Resolution	
2- MANAGED	Requirements Management	Project Planning	Project Monitoring & Control	Supplier Agreement Management	Measurement & Analysis	Process & Product Quality Assurance	Configuration Management

Process Area Contents



A Look as SPs: Requirements Management

Model Practices describe the expected characteristics of your processes



Develop a common understanding of the meaning of the requirements with the requirements providers

Manage change to the requirements as they evolve during the project

Identify inconsistencies between project plans, work products and requirements

Obtain the project participants' commitments to the requirement

Maintain bi-directional traceability among requirements and work products

The Organisation's processes are expected to fulfill these practices – how you achieve them is literally your business

A Look at GPs – Generic Goal 2

Generic Practices – Enable and Sustain Process Improvement

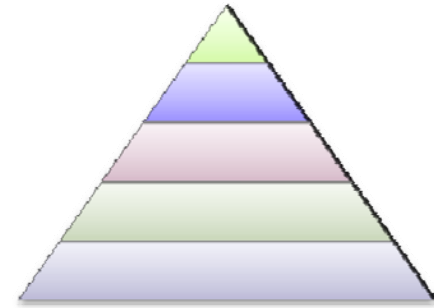


- Organisation clearly describes what is important – policies
- Process related activities are planned and resources provided
- People understand their responsibilities and have the necessary skills
- Process outputs are appropriately controlled
- Stakeholders are involved
- Processes are monitored day-to-day and periodic, independent checks confirm process are being followed
- Senior management have visibility and are actively involved

Generic Practices help ensure that the organisation's processes become the “way we do things here”

Maturity Level 1

Initial

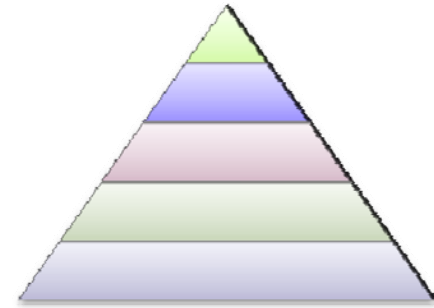


At this level an organisation is often characterised by:

- Hero Culture
- Fire Fighting
- Chaos
- But also may also be successful, by many criteria
- You are only as good as the people you put on the project

Maturity Level 2

Managed

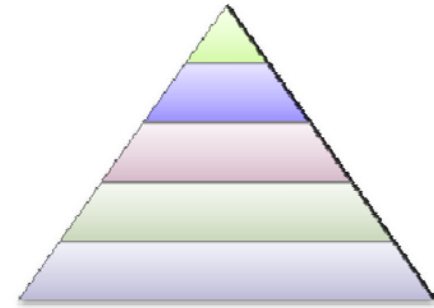


At this level basic controls are in place:

- Projects produce reasoned estimates and follow a plan
- Staff use documented processes to guide many aspects of their work, although not all projects follow the same processes
- Quality assurance reviews are conducted routinely to confirm processes are being followed and meet agreed standards
- Your good people are focused by good management

Maturity Level 3

Defined

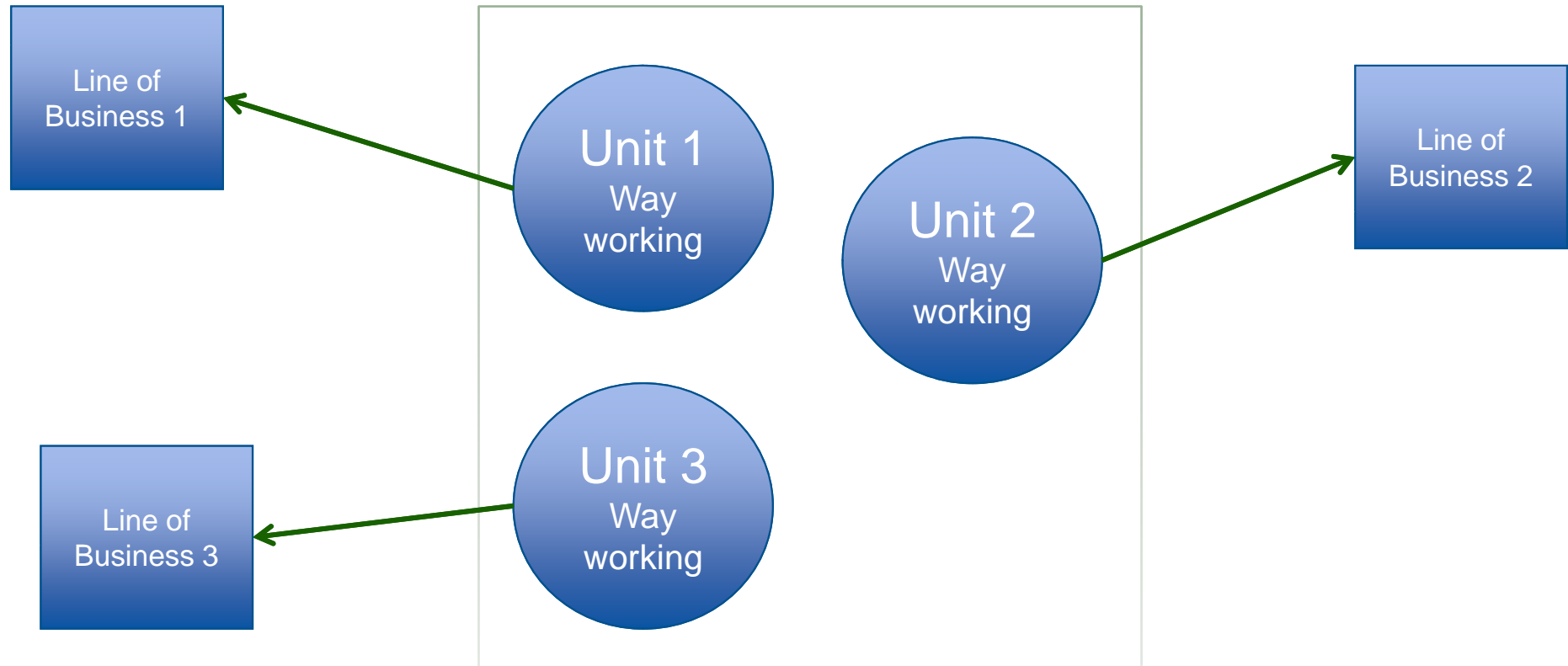


At this level the organisation has standard processes:

- All projects use a standard set of processes, covering the full development life cycle, as well as management activities, which they adapt to fit their work (e.g. some processes might be adapted to fit a different technology)
- Process is no longer an imposition – people understand the benefits
- Projects incorporate lessons learned so that they are able to re-use best practice and avoid past mistakes
- Project delivery becomes a team sport

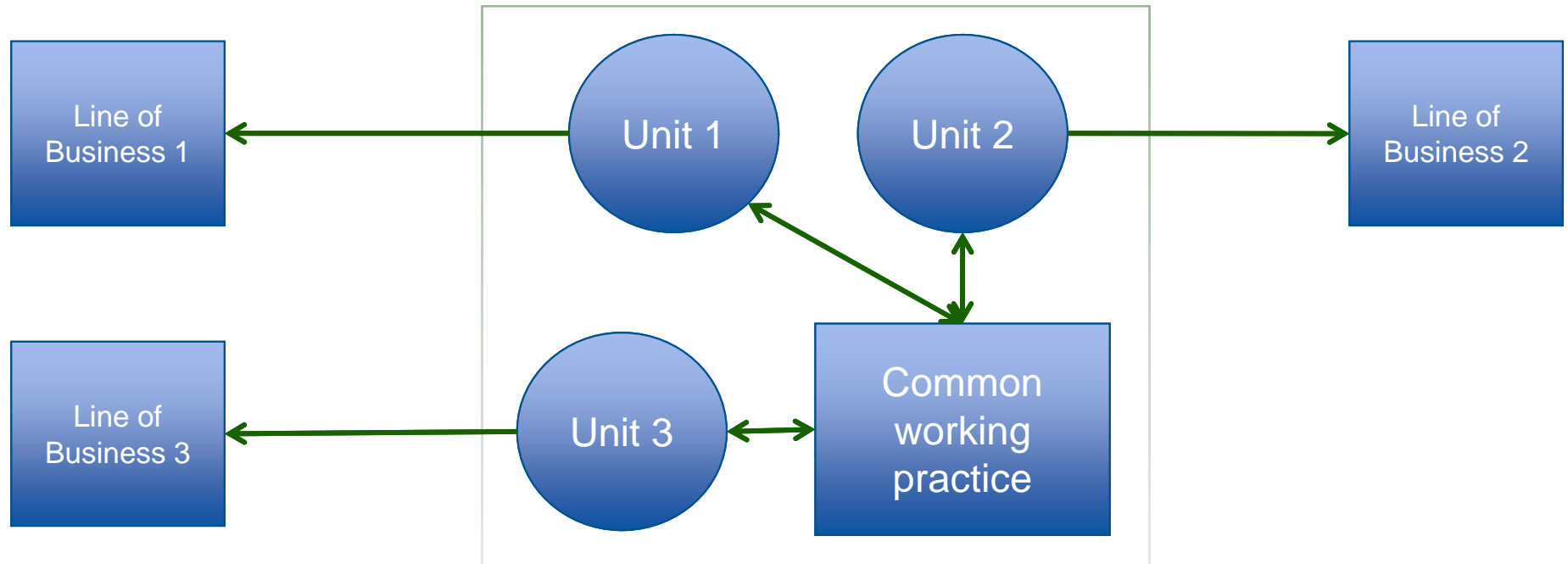
The Objective of Maturity Level 3

Evolve to be one team



Organisation has been successful with development units that are strongly aligned to a line of business – islands of effectiveness with limited cross-fertilisation

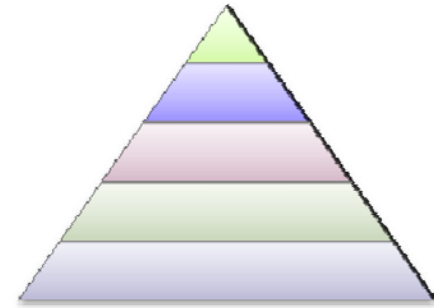
Become one team



- The integration of the team into “one team” becomes an attainable goal
- Creates an environment of greater mutual co-operation facilitating re-use of approaches, products and services across lines of business
- Leverage scale and diversity across all units → cross-sell, up-sell etc
- The movement of knowledge is easier when common working practice is in place
- Resource levelling across units becomes possible
 - Enhancing options for skills retention and exploitation of temporary low utilisation in a specific unit
 - Enabling the use of low cost locations to supplement existing capability

Maturity Levels 4 and 5

High Maturity



At high maturity levels, the organisation is using statistical techniques to continuously improve its processes:

- Key processes are managed by comparing current data with data collected from past projects, allowing potential issues to be identified and managed before they occur
- Root causes of problems are identified by analysing data and action taken to prevent the problems recurring
- You are able to plan, run and predict project performance based on the numbers



What's driving CMMI for Development

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What's driving CMMI?



- The recession
 - Clients want to do more with less
 - Clients are being held to commitments
- Globalisation
 - Real strong competition
- Unify Approaches
 - To enable more effective working practices
 - Bring down costs
 - Increase staff mobility

CMMI delivers improvements in performance and efficiency

Benefits: Improve Consistency

But the Delivery overruns by 50%*



The delay of a portion of forecast revenue from one year into another year often presents a challenge.

Original Go Live

New Go Live

Business Case Revenue Projection – £XXM

Transition to Support

- Staff training
- Transition from development

Field-Deployment

- Site prep
- Training
- Commissioning
- Go-live

System Delivery Programme

Jan 10

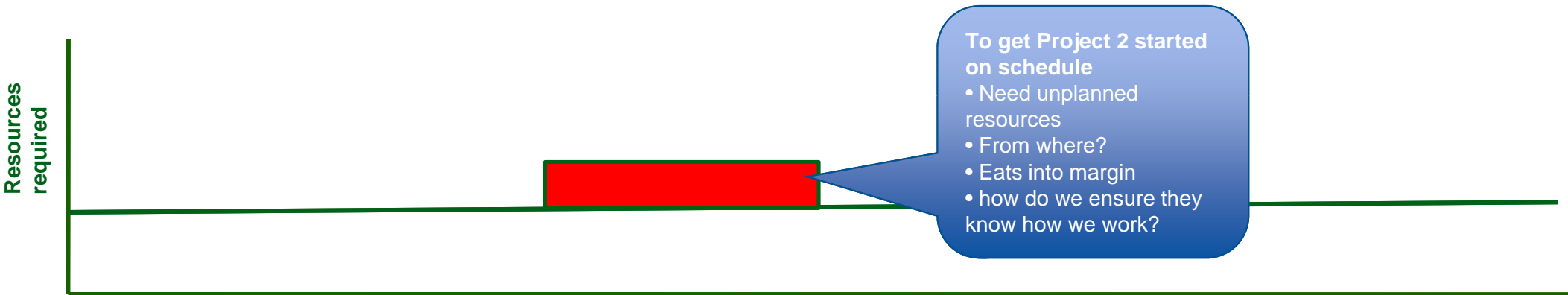
June 10

Cost

Dec 10

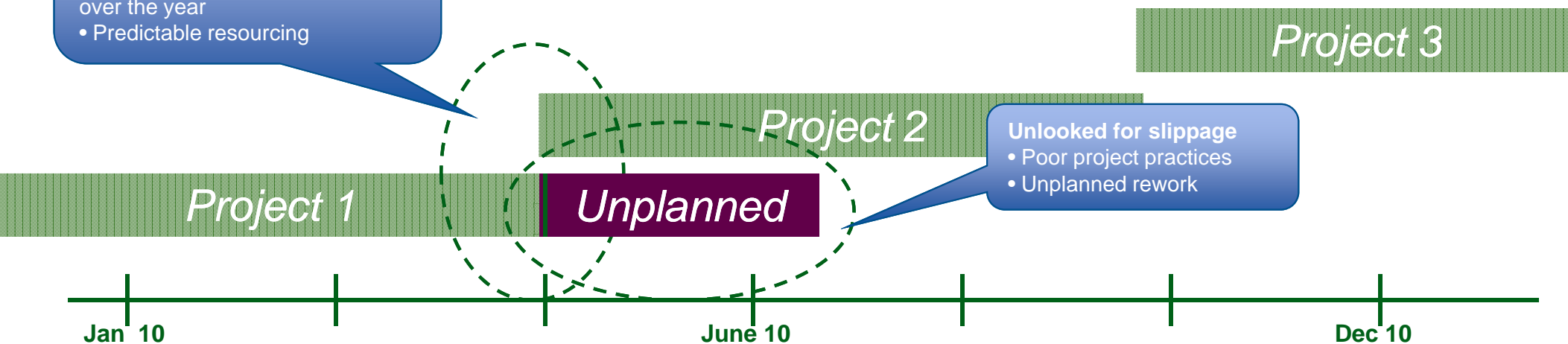
* According to the Standish Group this is a not unusual slippage

Improve consistency: Resourcing Perspective



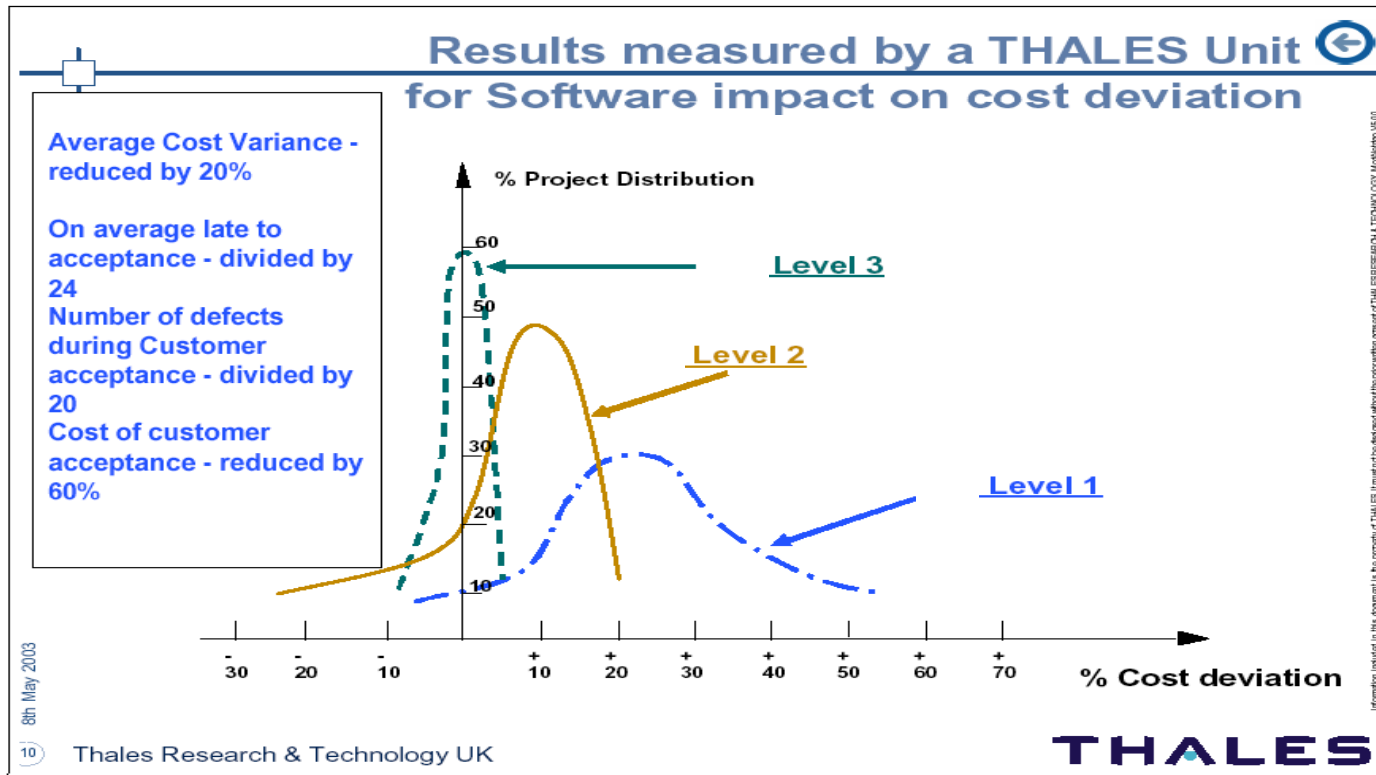
Plan for smooth transitions:

- clean handovers between projects
- Predictable delivery of product over the year
- Predictable resourcing



According to Forrester Research – Unplanned rework typically constitutes up to 30% of the cost of developing any software

Benefits: Improve Consistency



Getting Started with Process Improvement Using the CMMI™ · Carol Marsh, Patrick Vigier. ESEPG 2003.

Improving consistency can have a dramatic effect a business improving:
Margin, Resource utilisation, Customer satisfaction, Shareholder value by
delivering what you promise to the market

Real Improvement Results from the SEI



Baseline your organisation, plan and cost the improvement

Performance Category	Lowest Improvement	Median Improvement	Highest Improvement
Cost	3%	34%	87%
Schedule	2%	50%	95%
Productivity	11%	61%	329%
Quality	2%	48%	132%
Customer Satisfaction	-4%	14%	55%
ROI	1.7:1	4:1	27.7:1

A key mistake many organisations make is not to measure baseline performance when they start

Improve your organisation as a place to work

The human side



...**Tool** to escalate issues ...

...**Empowered** me ...

...Given **people** defined responsibilities...

...Strong **internal relationships**,
Challenging...

... supplier relationships **improved** ...

...**business attitude**...

... Management
support is **good**...

... structure **in place** ...



Starting **to do it** properly...

... information flows down from **senior
management** ...

... risks and issues **escalation** is better ...

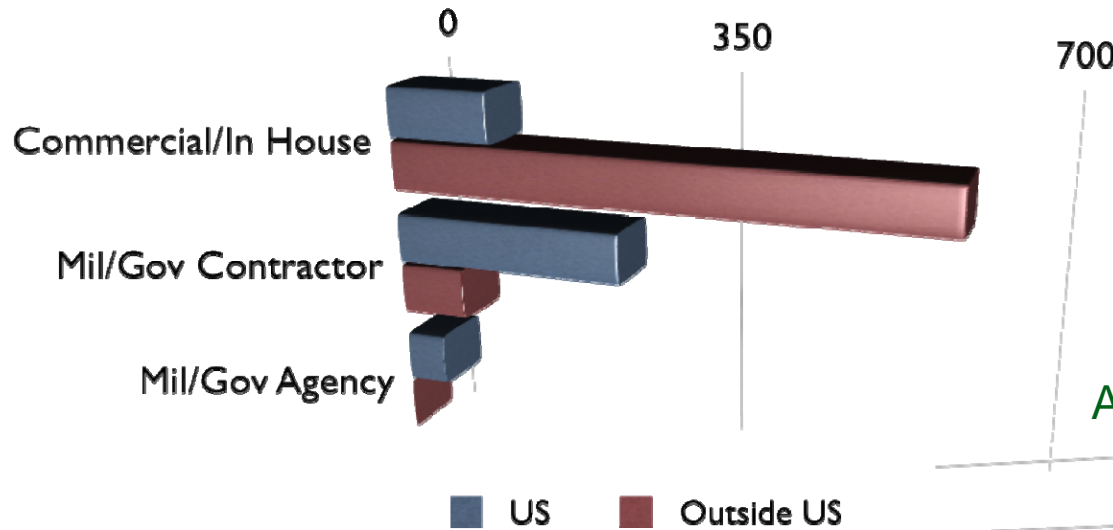
...**checks and balances**, no fag packet
designs ...

These are real comments on the changes that have been observed in clients moving to CMMI ML3

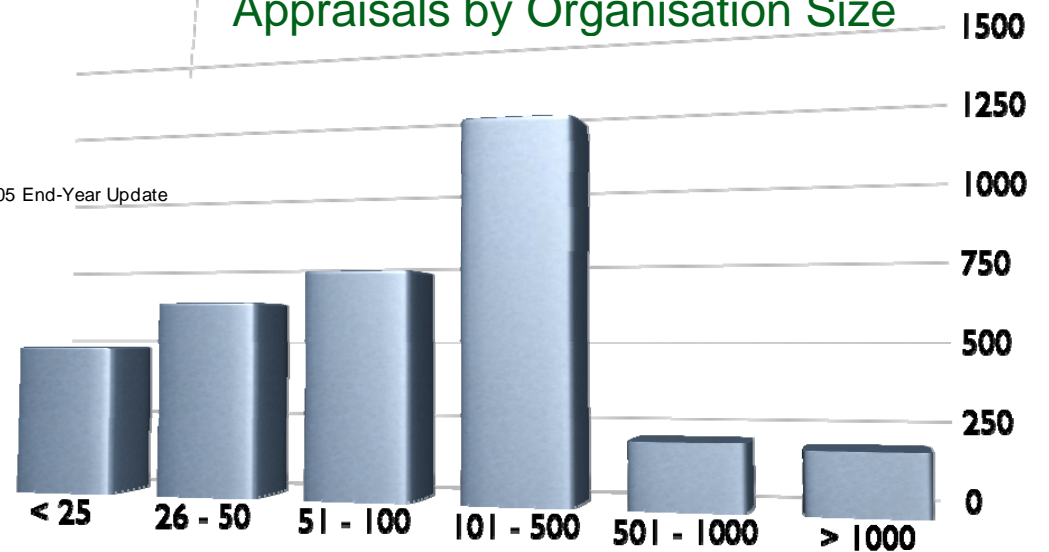
CMMI is not just for large projects



SCAMPI Appraisal Results by Sector



Appraisals by Organisation Size



Based on 1264 appraisals Source: SEI CMMI v1.1 SCAMPI v1.1 Class A Appraisal Results 2005 End-Year Update



Getting started with CMMI for Development

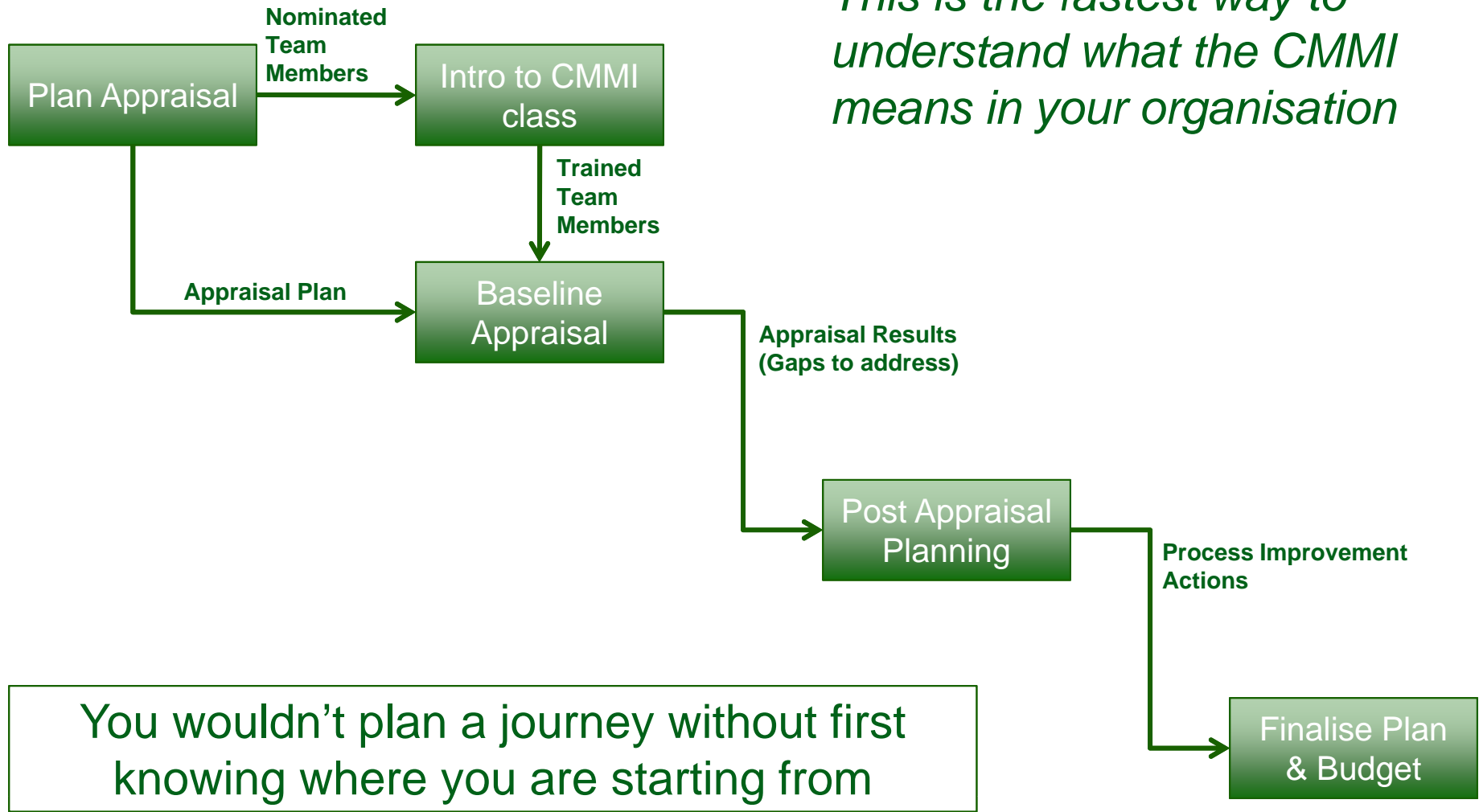
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Establish Where You Are

The role of the baseline appraisal



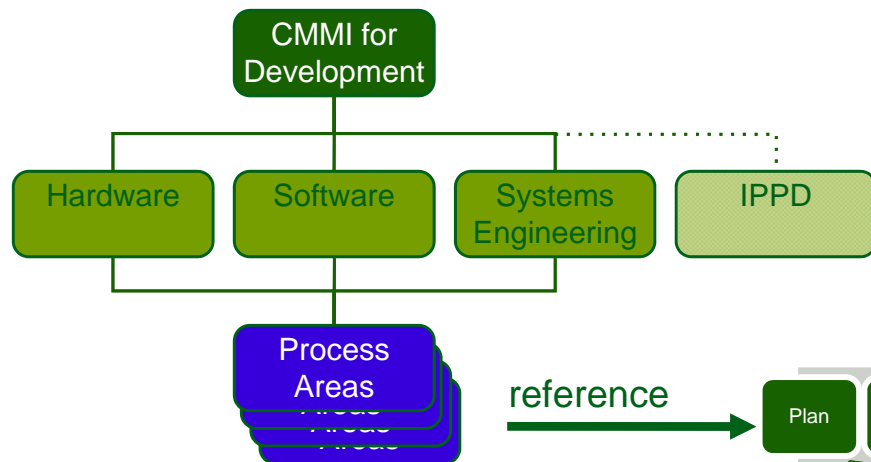
This is the fastest way to understand what the CMMI means in your organisation



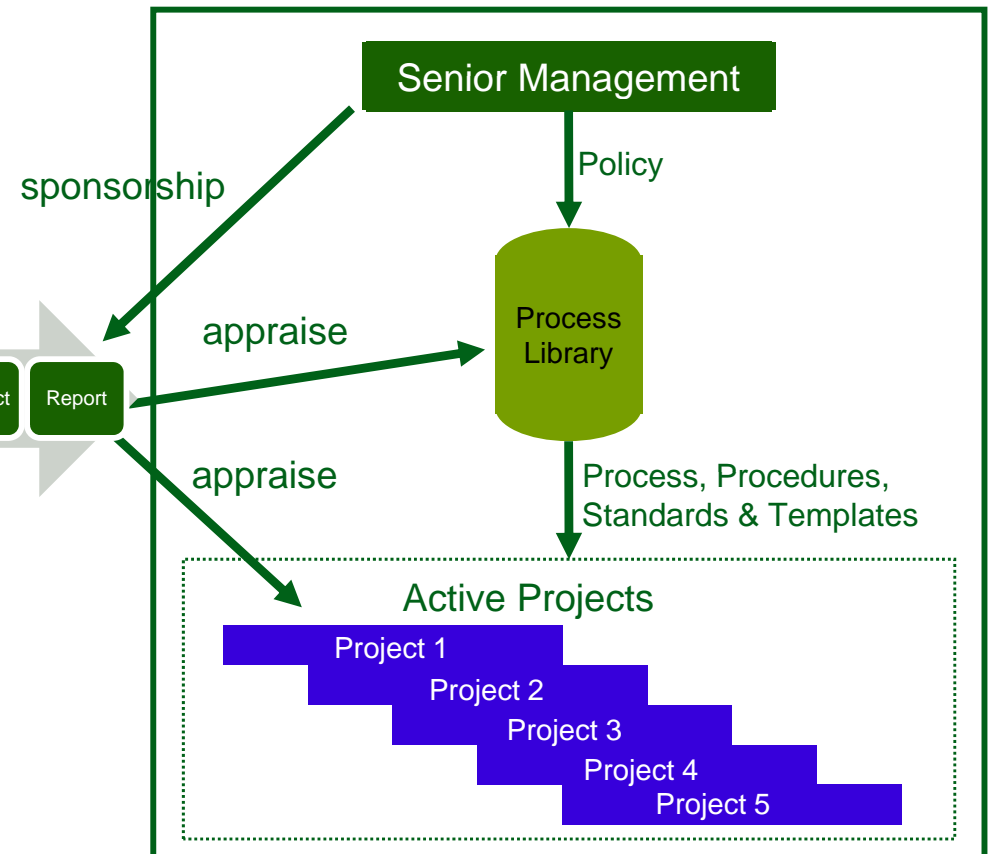
Relationship between CMMI, SCAMPI and the Appraised Organisation



CMMI Model



Organisation



There are 3 appraisal classes: A, B, C

Example Results

Heat map provides a visual representation of the appraisal results by model practice



Practice Characterisation Maturity Level 3 Process Areas



Maturity Level 3 Process Areas															
PA	Specific Goals														
	SG1						SG2				SG3				
	SP1.1	SP1.2	SP1.3	SP1.4	SP1.5	SP1.6	SP2.1	SP2.2	SP2.3	SP2.4	SP3.1	SP3.2	SP3.3	SP3.4	SP3.5
RD	Amber	Green					Amber	Red	Amber		Amber	Red	Green	Green	Amber
TS	Green	Green					Amber	Green	Green	Amber	Amber	Amber			
PI	Red	Green	Amber				Amber	Amber			Amber	Red	Green	Amber	
VER	Amber	Green	Amber				Red	Green	Red		Green	Amber			
VAL	Amber	Red	Amber				Amber	Red							
OPF	Amber	Amber	Red				Amber	Amber			Amber	Amber	Amber	Red	
OPD	Amber	Green	Green	Amber	Amber	Amber									
OT	Amber	Amber	Red	Green			Amber	Red	Amber						
IPM	Green	Green	Amber	Amber	Amber	Amber	Green	Amber	Green		Green	Amber	Green	Green	Amber
RSKM	Red	Amber	Amber				Amber	Amber			Green	Red			
DAR	Red	Amber	Amber	Amber	Red	Amber									

PA	Generic Goals											
	GG3											
	GP2.1	GP2.2	GP2.3	GP2.4	GP2.5	GP2.6	GP2.7	GP2.8	GP2.9	GP2.10	GP3.1	GP3.2
RD	Green	Green	Amber	Green	Amber	Green	Amber	Green	Green	Green	Green	Amber
TS	Amber	Green	Amber	Green	Green	Green	Amber	Amber	Green	Green	Green	Amber
PI	Green	Amber	Green	Green	Amber	Green	Amber	Amber	Amber	Green	Amber	Red
VER	Green	Green	Green	Amber	Amber	Green	Green	Amber	Amber	Amber	Green	Amber
VAL	Green	Green	Green	Amber	Amber	Green	Green	Amber	Amber	Amber	Amber	Red
OPF	Amber	Amber	Amber	Red	Red	Red	Amber	Green	Red	Amber	Amber	Red
OPD	Amber	Amber	Amber	Red	Red	Amber	Amber	Green	Amber	Green	Amber	Red
OT	Amber	Amber	Amber	Green	Amber	Amber	Amber	Amber	Amber	Green	Amber	Red
IPM	Green	Green	Green	Amber	Green	Green	Amber	Amber	Green	Green	Green	Amber
RSKM	Green	Amber	Green	Amber	Amber	Green	Amber	Green	Green	Green	Amber	Amber
DAR	Green	Red	Green	Amber	Red	Red	Red	Red	Red	Amber	Amber	Red

Example Results

A textual summary of the strengths and weaknesses found by the appraisal team



Verification

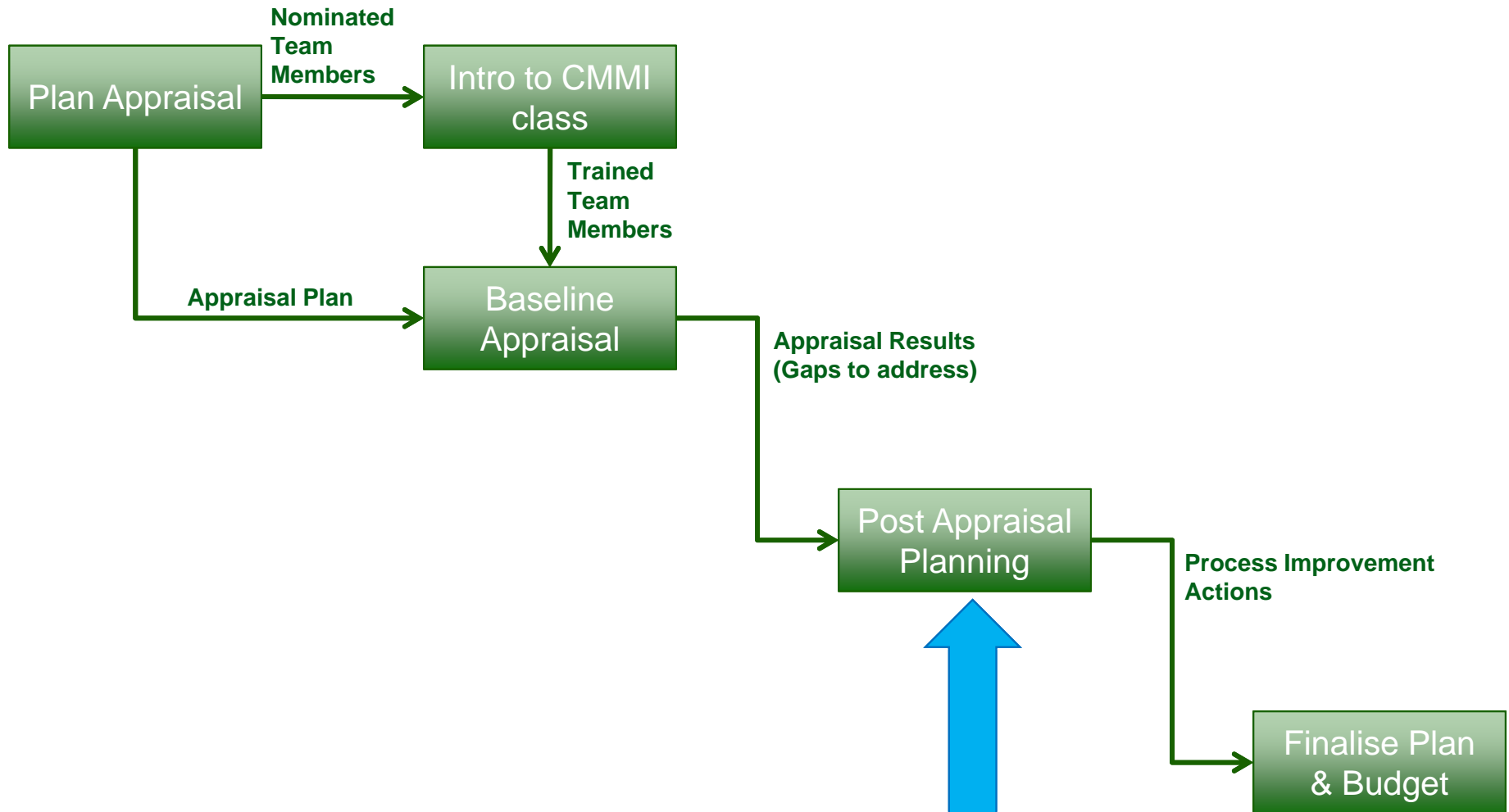
Purpose: To confirm that selected work products meet their specified requirements.



Weaknesses

- Not all work products to be verified were identified. [SP 1.1]
 - Although test plans were produced, work products to be verified by peer review were not identified.
- Verification criteria were not clearly defined in all cases. [SP 1.3]
- Peer reviews were not formally planned. [SP 2.1]
- No evidence that data was collected and analysed about the conduct of peer reviews. [SP 2.3]

Establish Where You Are

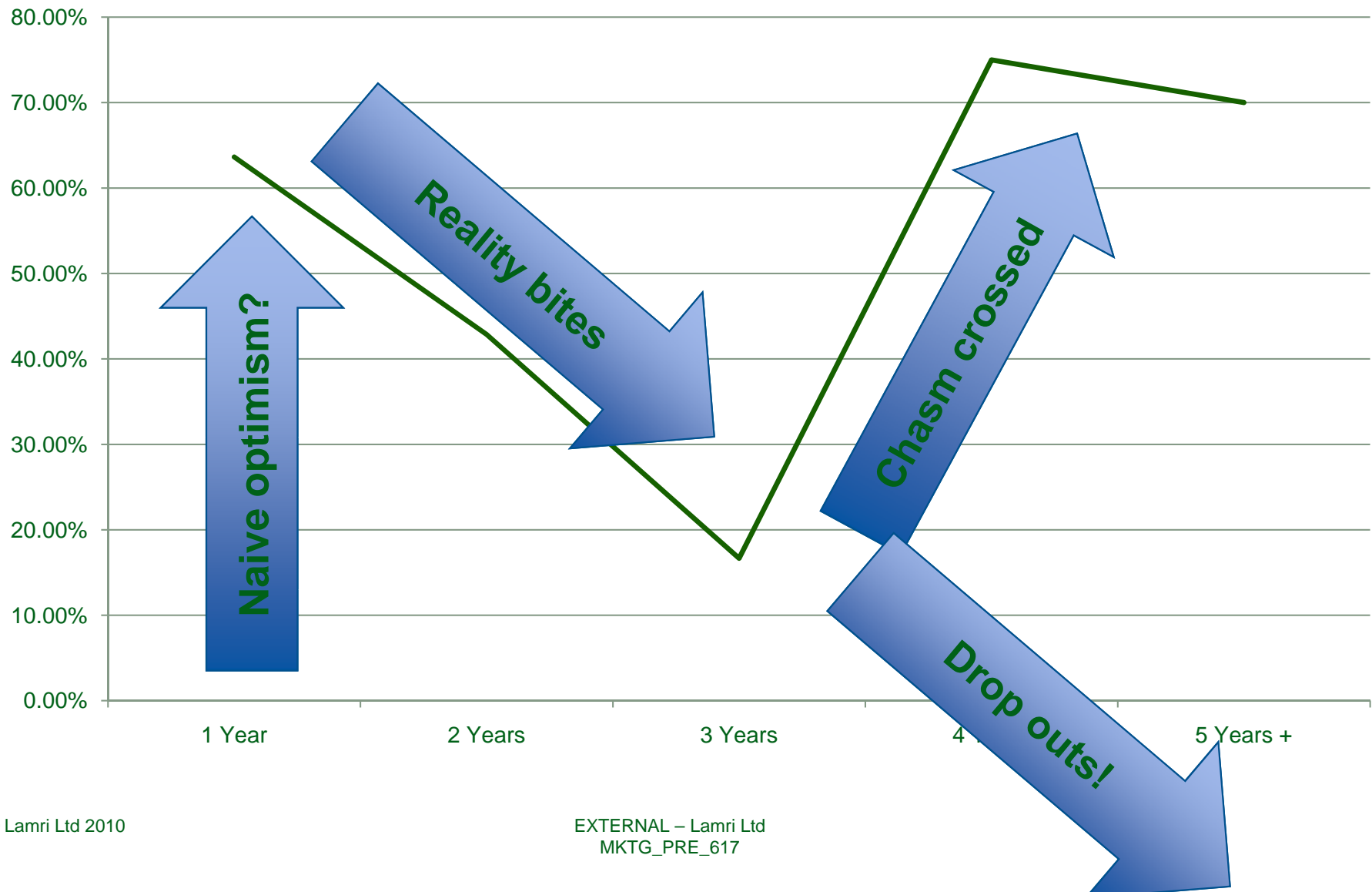


Sustaining change is hard

Source: CMMI made Practical Delegate Survey 2009

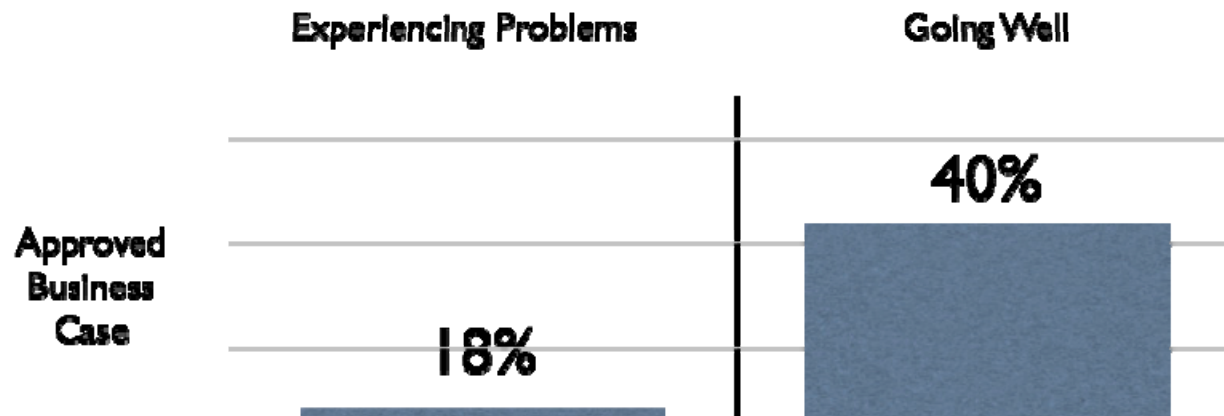


Going Well

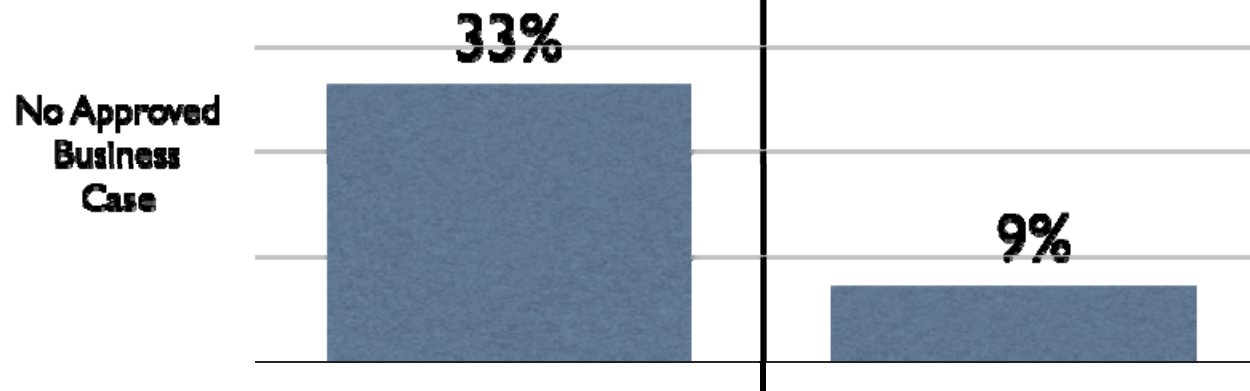


Set yourself up for success

Source: CMMI made Practical Delegate Survey 2009



Business case forces you to answer the tough questions and engage senior management



Case Study 1

A Global SI



Characteristics

- Truly global organisation
- Strong process heritage
- Delivering large, mainly business systems

Real reasons for change

- Given that the cost of risk of a project was a tracked and budgeted expenditure the reduction of this in the Accounts was a key, measurable objective
 - Although the organisation had a culture of process they had significant staff turnover in the senior management level with delivery responsibility for client projects – mitigating this risk was a key factor
- Having a consistent “way of working” provided the freedom to deliver a project from anywhere in the world

Case Study 2

Specialist software company



Characteristics

- Strong pipeline of future business
 - Largely co-located team
- So specialist lead time for recruitment was very long

Real reasons for change

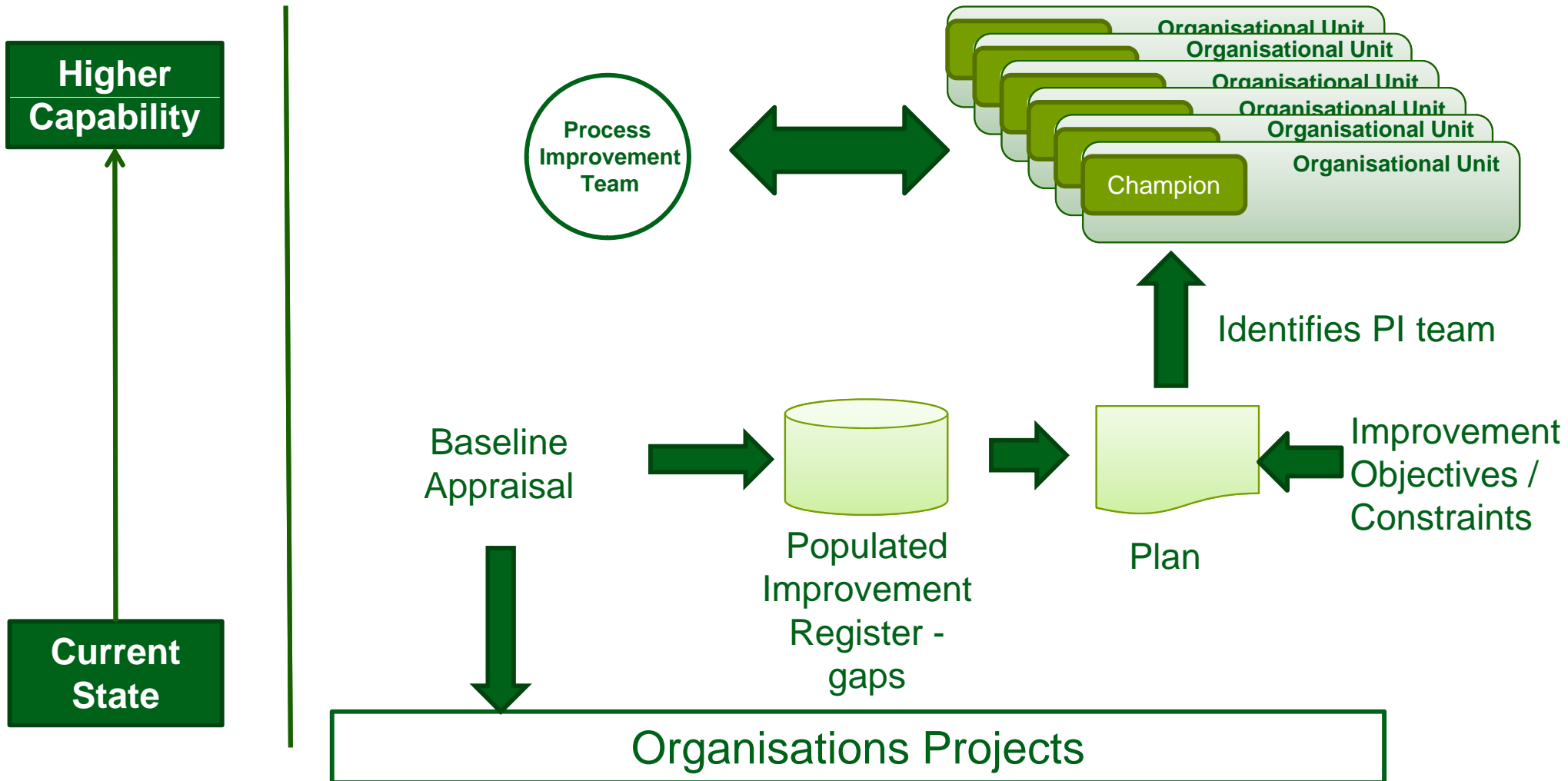
- Case for change was simple: Deliver more with the existing team
- Case for change approved however challenge given to the process improvement team – reduce internal involvement to help ensure even more profitable client delivery continues
- Using experienced external CMMI experts the change would be quicker with benefits realised earlier
- Final solution: blended internal and external team that maximizes client billing but does not compromise process improvement project

You need your case for change



- The CMMI is a framework for change, but what change do you need?
 - Target real specific issues and avoid vague generalities like “better delivery”
- Identify triggers for change
 - Ensure you understand priorities for change
- Be realistic
 - Reconcile your needs with capacity to change – you won’t be able to tackle everything at once.
- Sell the change
 - Aim to get benefits early – quick wins help to build momentum.

Transforming the team



Assessing against CMMI provides a consistent benchmark across your business, this means you have one improvement initiative meeting your business objectives

So what's the context of your transformation?



- You have the results of your baseline appraisal
- ... there are lots of gaps, but ...
- Everyone is busy!
- The order book is larger than the capacity to deliver it for the next 12 months
- We need to tune and upgrade the team while it is delivering

We need to convince people that this change is not just another initiative – but how?

Some Common Pitfalls



- Promising to solve all the organisation's problems tomorrow
- Multiple, uncoordinated change initiatives
- Spending all your efforts trying to convert the cynics
- Staffing your process improvement team with whoever's available at the time
- Allowing credence to the view that process is just an overhead to be ignored when the pressure is on
- Writing a process tome that will just become shelf-ware, remember you are writing processes for professionals

Maintain momentum

Build and Maintain Management Support



- Address management's real issues
 - Customise your message according to who you are selling to
 - Ensure you understand and use language of the day
- Ensure top management are involved
 - Get their commitment on the record
 - Involve them in the governance of the initiative
 - Educate them in the need for ongoing improvement, rather than one off change
- Build a coalition for change
 - Use allies from across the organisation, e.g. internal audit, internal customers

Take Action

Move from talking about improvement to making it a reality

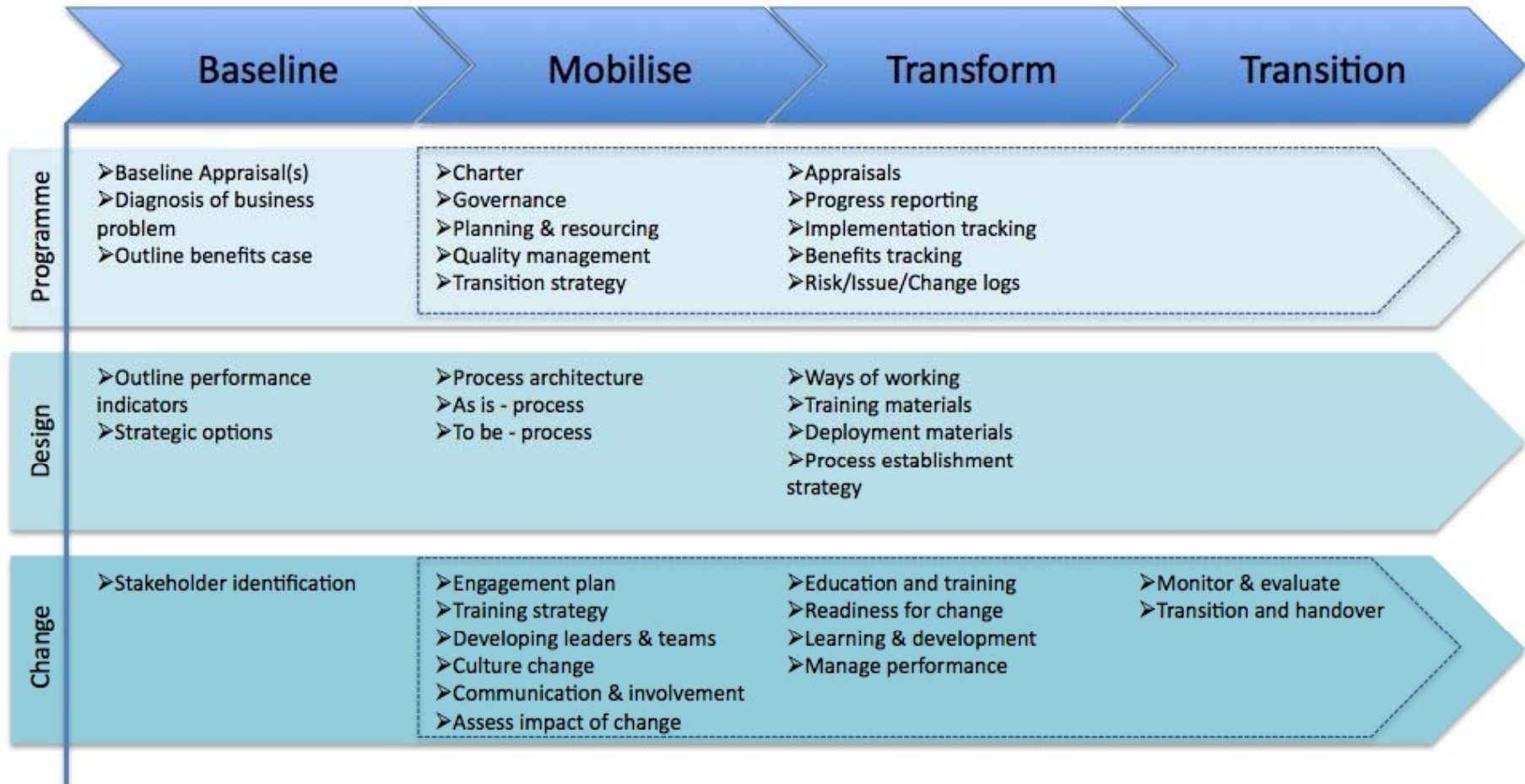


- Make using the process part of the day job
- Utilise process adoption workshops
 - Build on current practice, don't re-invent the wheel
 - Get buy-in by ensuring participation of practitioners
- Provide coaching/mentoring support
 - Involve process authors in roll-out of new process
 - Address fear and ignorance
- Don't over engineer processes
 - Aim for “good enough” – once you have a process defined and employed you have something you can improve

You get no benefits if no-one uses your process!

Process Improvement is a process

How we do it – the Lamri Transformation Process (LTP)



How we do it

Assembling the Jigsaw – Putting it all together - Transform



Process Improvement is a Process – The Lamri Transformation Process

Higher Capability

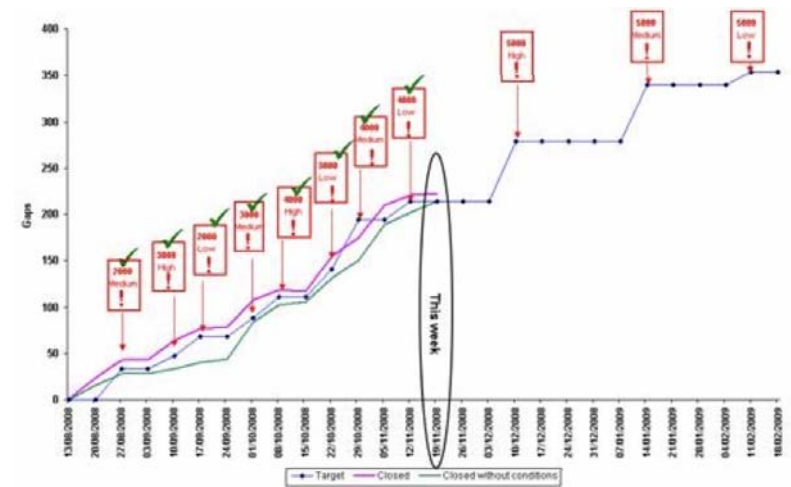
Current State

The Lamri Transformation Process is a weekly cycle:-

- Improve
- Provide Evidence
- Review
- Report



That drives a unified process improvement project ensuring the business has a consistent language of change



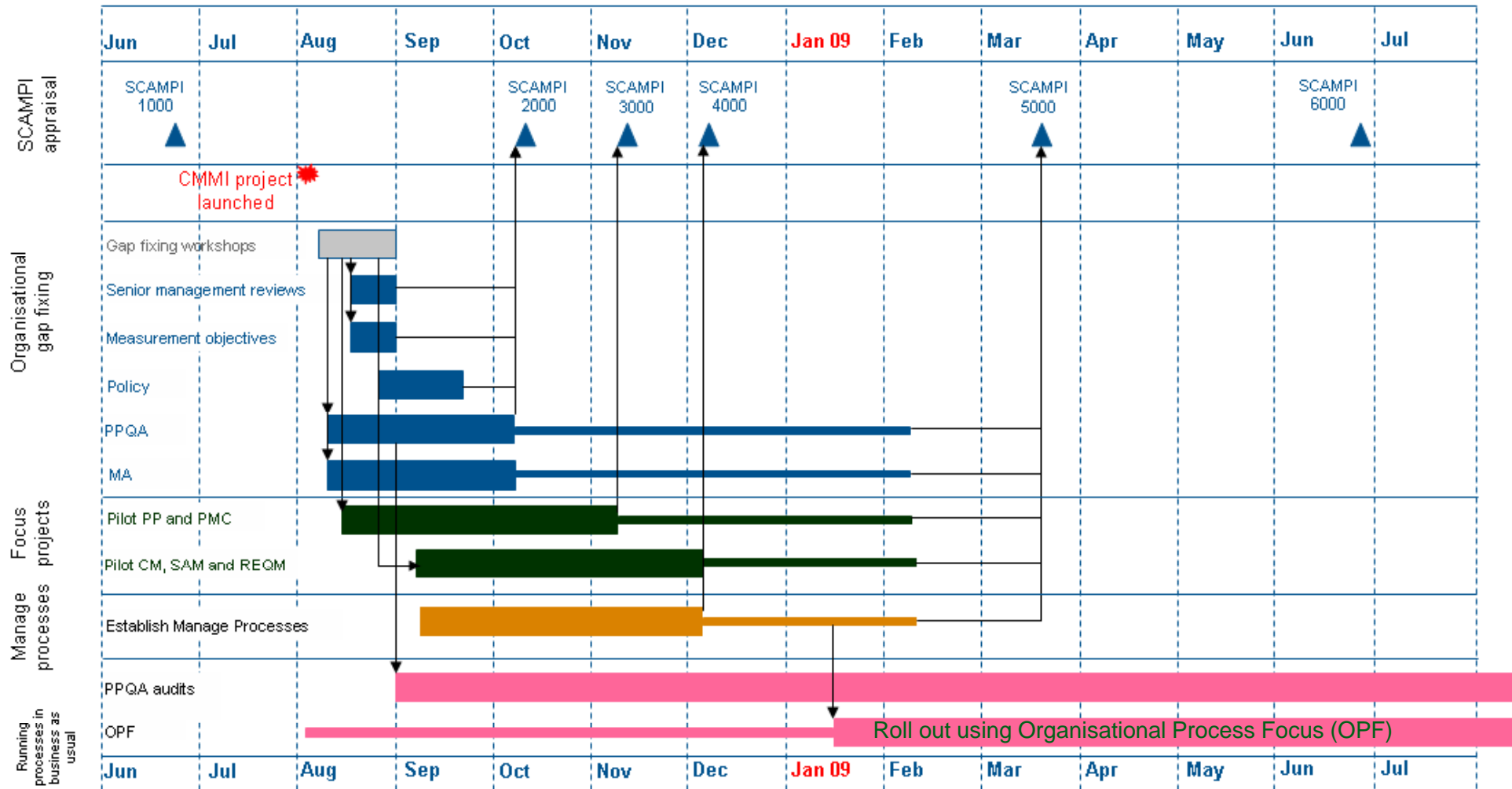
Weekly Reporting

In one of Lamri's recent engagements this cycle was operating two weeks after project mobilisation

Underpin with a real plan



HOW IT HANGS TOGETHER



Our approach crosses the chasm early

Address your risks while you have your best management support



Going Well



In conclusion



- CMMI is a vehicle for effecting real business change
- CMMI is method agnostic
- The recession has driven a resurgent interest in CMMI
- There are proven benefits available
- Achieving these benefits involves change and change is hard
- Having an approved business case increases your chance of success because it forces you to confront the issues and drive out the risks.
- The investment in getting started is low – complete a baseline appraisal and produce options for senior management

