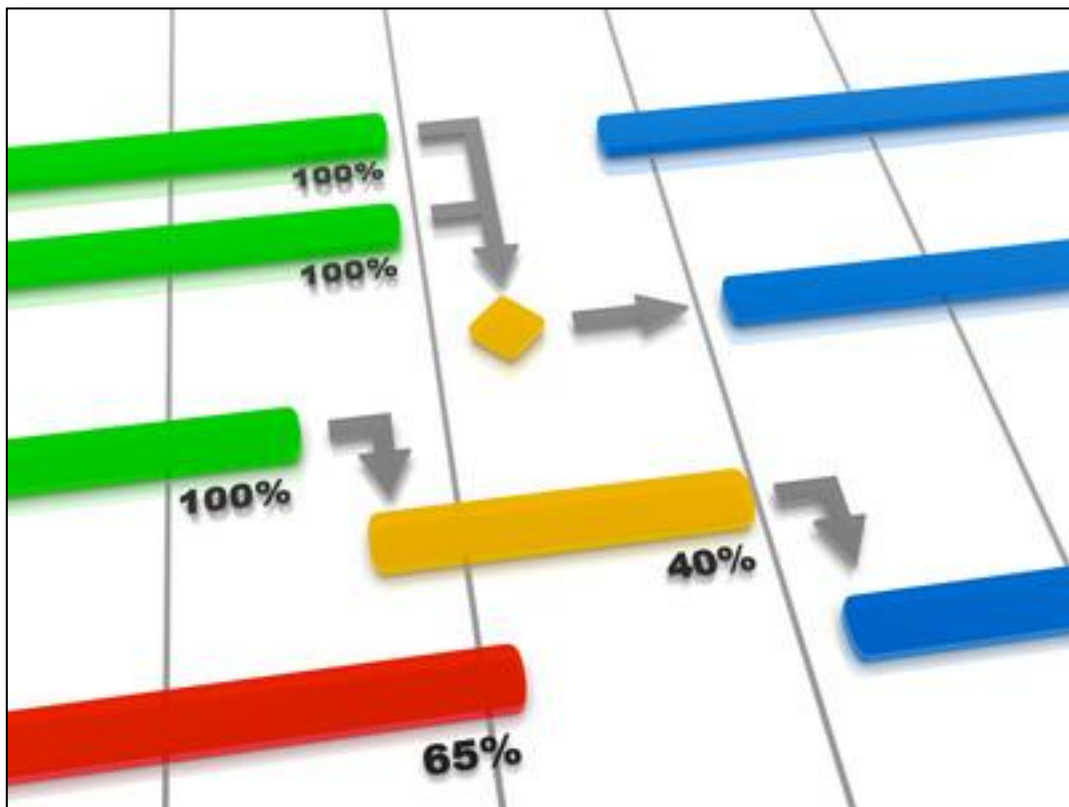


# Comparing *PMBOK*<sup>®</sup> *Guide* 4<sup>th</sup> Edition, *PMBOK*<sup>®</sup> *Guide* 5<sup>th</sup> Edition, and ISO 21500



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## 1 FOREWORD

National and international standards exist and initiated the emergence of project management certifications mostly targeting individuals, rather than organizations.

Despite this orientation, most Project Management standards are process oriented. Therefore, many companies have developed in-house methodologies that are more or less inspired from these standards.

Currently, three major process oriented certification bodies have a dominant and significant influence in Switzerland and Europe:

The Project Management Institute (PMI) and its Project Management Body of Knowledge (PMBOK) guide®.

- The Office of Government Commerce (OGC) and PRINCE2®, published in 1996, having been contributed to by a consortium of some 150 European organizations.
- The Swiss Federal Strategy Unit for IT (FSUIT) the owner of the HERMES method.

The International Project Management Association (IPMA) is not considered here since it is not process but competencies oriented, when considering its certification framework.

In 2006, the British Standard Institute, a member of ISO, has initiated a request toward ISO to work on defining a standard for Project Management.

ISO launched a new Technical Committee to deal with project management: TC 236. This committee involves 37 participating countries and 14 observing countries.

The TC236 secretariat has published guidance on project management: ISO Draft International Standard (DIS) 21500, which is currently at approval stage.

Since the PMBOK® Guide has been approved by ANSI as American National Standards, and ANSI being the TC236 secretariat, some similarities were expected between the PMBOK® Guide and the ISO/DIS 21500 standard.

This white paper aims to highlight the major communalities and differences between the ANSI and the ISO standards, i.e. between the *PMBOK® Guide* and the ISO/DIS 21500 standard.

Both *PMBOK® Guides*, 4<sup>th</sup> and 5<sup>th</sup> editions, have been considered and are covered in this white paper.

Disclaimer: *PMBOK® Guide* 5<sup>th</sup> edition is currently being approved and minor changes may be introduced in the final release of the respective documents.

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## 2 EXECUTIVE SUMMARY

The two releases of the PMBOK® Guide and the ISO 21500 standards are very close. They present a set of processes that have been organized the same way, by project management stage and project management topic.

The ISO standard is 47 pages only and is limited to the introduction of the processes, their inputs and their outputs.

Both PMBOK® Guides describe, through more than 450 pages, the project management processes, their inputs, their outputs and also the associated tools and techniques.

In the chronological order, the ANSI standard came first, with the 4<sup>th</sup> edition of the PMBOK® Guide. The ISO standard has been approved by the national committees and was released in August 2012. The new edition of the PMBOK® Guide is expected by the end of 2012.

ISO uses most of the PMBOK® Guide 4<sup>th</sup> processes and introduced minor adaptations: the risk knowledge area has been revisited as well as the human resource management.

The major change is related to stakeholder management; the subject group (aka knowledge area) has been introduced by ISO and it appears as well in the new PMBOK® Guide release. The two processes introduced by ISO in this subject group were two processes of the communication knowledge area of the PMBOK® Guide 4<sup>th</sup> edition.

ISO processes are more likely oriented towards a cascade approach of the scope definition rather than an iterative approach. Therefore, the ISO standard is perhaps less attractive for Agile oriented organizations.

### 3 PROCESS ORGANIZATION IN THE STANDARDS

Both standards (ANSI and ISO) are structured into project management stages (project management, not project stages or phases) and project management topics:

	PMBOK® Guide 4 <sup>th</sup>	ISO/DIS 21500	PMBOK® Guide 5 <sup>th</sup>
<b>Stages</b>	5 process groups	5 process groups	5 process groups
<b>Topics</b>	9 knowledge areas	10 subject groups	10 knowledge areas
<b>Processes</b>	42 processes	39 processes	47 processes

*NB: Since the PMBOK® Guide 4th came first, we will use the wording “process groups” and “knowledge areas” in this document.*

The first noticeable thing is the introduction of a new knowledge area in the DIS and the PMBOK® Guide 5<sup>th</sup> edition: Stakeholder Management.

	PMBOK® Guide 4 <sup>th</sup>	ISO/DIS 21500	PMBOK® Guide 5 <sup>th</sup>
<b>Process Groups</b>	<ol style="list-style-type: none"> <li>1. Initiating</li> <li>2. Planning</li> <li>3. Executing</li> <li>4. Monitoring &amp; Controlling</li> <li>5. Closing</li> </ol>	<ol style="list-style-type: none"> <li>1. Initiating</li> <li>2. Planning</li> <li>3. Implementing</li> <li>4. Controlling</li> <li>5. Closing</li> </ol>	<ol style="list-style-type: none"> <li>1. Initiating</li> <li>2. Planning</li> <li>3. Executing</li> <li>4. Monitoring &amp; Controlling</li> <li>5. Closing</li> </ol>
<b>Knowledge Areas</b>	<ol style="list-style-type: none"> <li>1. Integration</li> <li>2. Scope</li> <li>3. Time</li> <li>4. Cost</li> <li>5. Quality</li> <li>6. Human Resource</li> <li>7. Communications</li> <li>8. Risk</li> <li>9. Procurement</li> </ol>	<ol style="list-style-type: none"> <li>1. Integration</li> <li>2. Scope</li> <li>3. Time</li> <li>4. Cost</li> <li>5. Quality</li> <li>6. Resource</li> <li>7. Communication</li> <li>8. Risk</li> <li>9. Procurement</li> <li>10. Stakeholder</li> </ol>	<ol style="list-style-type: none"> <li>1. Integration</li> <li>2. Scope</li> <li>3. Time</li> <li>4. Cost</li> <li>5. Quality</li> <li>6. Human Resource</li> <li>7. Communications</li> <li>8. Risk</li> <li>9. Procurement</li> <li>10. Stakeholder</li> </ol>

*NB: In both PMBOK® Guides, the full name of the knowledge areas follows the pattern <Project <KA> Management>: “Integration” is described by PMI as “Project Integration Management”.*

The set of processes exposed by the PMBOK® Guide 4<sup>th</sup> edition is the following:

PMBOK® Guide 4 <sup>th</sup>	Initiating	Planning	Executing	Monitoring & Controlling	Closing
<b>Integration</b>	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
<b>Scope</b>		5.1 Collect Requirements 5.2 Define Scope 5.3 Create WBS		5.4 Verify Scope 5.5 Control Scope	
<b>Time</b>		6.1 Define Activities 6.2 Sequence Activities 6.3 Estimate Activity Resources 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
<b>Cost</b>		7.1 Estimate Costs 7.2 Determine Budget		7.3 Control Costs	
<b>Quality</b>		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Perform Quality Control	
<b>Human Resources</b>		9.1 Develop HR Plan	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
<b>Communi-cations</b>	10.1 Identify Stakeholders	10.2 Plan Communications	10.3 Distribute Information 10.4 Manage Stakeholders Expectations	10.5 Report Performance	
<b>Risk</b>		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risks Analysis 11.5 Plan Risk Responses		11.6 Monitor and Control Risks	
<b>Procurement</b>		12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Administer Procurements	12.4 Close Procurements

ISO presents the following set of processes<sup>\*)</sup>:

ISO 21500 Standard	Initiating	Planning	Implementing	Controlling	Closing
<b>Integration</b>	4.3.2 Develop Project Charter	4.3.3 Develop Project Plans	4.3.4 Direct Project Work	4.3.5 Control Project Work 4.3.6 Control Changes	4.3.7 Close Project Phase or Project 4.3.8 Collect Lessons Learned
<b>Stakeholders</b>	4.3.9 Identify Stakeholders		4.3.10 Manage Stakeholders		
<b>Scope</b>		4.3.11 Define Scope 4.3.12 Create WBS 4.3.13 Define Activities		4.3.14 Control Scope	
<b>Resource</b>	4.3.15 Establish Project Team	4.3.16 Estimate Resources 4.3.17 Define Project Organization	4.3.18 Develop Project Team	4.3.19 Control Resources 4.3.20 Manage Project Team	
<b>Time</b>		4.3.21 Sequence Activities 4.3.22 Estimate Activity Durations 4.3.23 Develop Schedule		4.3.24 Control Schedule	
<b>Cost</b>		4.3.25 Estimate Costs 4.3.26 Develop Budget		4.3.27 Control Costs	
<b>Risk</b>		4.3.28 Identify Risks 4.3.29 Assess Risks	4.3.30 Treat Risks	4.3.31 Control Risks	
<b>Quality</b>		4.3.32 Plan Quality	4.3.33 Perform Quality Assurance	4.3.34 Perform Quality Control	
<b>Procurement</b>		4.3.35 Plan Procurements	4.3.36 Select Suppliers	4.3.37 Administer Contracts	
<b>Communications</b>		4.3.38 Plan Communications	4.3.39 Distribute Information	4.3.40 Manage Communication	

<sup>\*)</sup> This table is reproduced with the permission of ISO. ISO 25000:2012 can be obtained from any ISO member and from ISO at [www.iso.org](http://www.iso.org). Copyright remains with ISO.

The PMBOK® Guide 5<sup>th</sup> edition introduces the following processes:

PMBOK® Guide 5 <sup>th</sup>	Initiating	Planning	Executing	Monitoring & Controlling	Closing
<b>Integration</b>	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
<b>Scope</b>		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
<b>Time</b>		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
<b>Cost</b>		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
<b>Quality</b>		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
<b>Human Resources</b>		9.1 Plan HR Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
<b>Communications</b>		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
<b>Risk</b>		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risks Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
<b>Procurement</b>		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
<b>Stakeholder</b>	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Management	



## 4 MAJOR CHANGES ON PROCESSES, IN A NUTSHELL

The PMBOK® Guide 4<sup>th</sup> edition details 42 processes.

From the PMBOK® Guide 4<sup>th</sup>, ISO ...

- ... uses 32 processes or direct equivalents,

- ... revisits 2 processes (Develop HR plan and Acquire Project Team are revisited into Establish Project Team and Define Project Organization)

- ... merges 2x2 processes into 2 (Perform Qualitative Risk Analysis and Perform Quantitative Risk Analysis are merged into Assess Risks and Distribute Information and Report Performance are merged into Distribute Information)

- ... does not use 4 processes (Collect Requirements, Verify Scope, Plan Risk Management, Close Procurements)

- ... introduces 3 processes (Collect Lessons Learned, Control Resources, Manage Communication)

The ISO standard has 39 processes.

The PMBOK® Guide 5<sup>th</sup>, compared to its predecessor ...

- ... adds 4 processes to plan the management of knowledge areas

- ... introduces 2 new controlling processes (Control Communications & Control Stakeholder Management)

- ... merges 2 processes (Distribute Information and Report Performance) into a revisited process (Manage Communications)

- ... reallocates 2 processes in the new stakeholder knowledge area

This edition of the PMBOK® Guide details 47 processes.

## 5 DETAILED ANALYSIS

Following the PMBOK® Guide 4<sup>th</sup> edition structure, the major differences between the three references will be detailed, knowledge area by knowledge area.

Since this structure didn't include the stakeholder knowledge area, it will be detailed at the very end of this document.

Therefore, the analysis will not strictly follow the ISO standard structure.

### 5.1 PROJECT INTEGRATION MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Develop Project Charter	Develop Project Charter	Develop Project Charter
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	In addition to the expert judgment, the 5 <sup>th</sup> edition proposes facilitation techniques to build the project charter. These techniques have been introduced by the 5 <sup>th</sup> edition. Typical facilitation techniques are brainstorming, Delphi technique, problem solving, meetings, facilitation, etc.		
<b>Process</b>	Develop Project Management Plan	Develop Project Plans	Develop Project Management Plan
<b>What's new in ISO?</b>	<p>ISO reinforces the distinction between the baselines and the management plans.</p> <p>The Project Management Plan federates the management plans of the different knowledge areas, like the scope management plan, the risk management plan, etc., that are called subsidiary plans.</p> <p>The project plan contains the baselines of the project, in terms of scope, schedule, resources, risks, etc.</p>		
<b>What's new in the 5<sup>th</sup> edition?</b>	<p>For both frameworks of PMI, the Project Management Plan integrates and consolidates all of the subsidiary management plans and baselines.</p> <p>Thus, the Project Management Plan is made of the two major sections: The subsidiary management plans and the baselines. This is consistent with the previous edition.</p>		

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Direct and Manage Project Execution	Direct Project Work	Direct and Manage Project Execution

**What's new in ISO?**

Change requests are not an input of the “Direct Project Work” process. ANSI justifies such changes because when the work is being done, teammates may request process adaptations, discover new way to perform, etc.

ISO introduces more significantly the issue log in its standard. It is a clear deliverable that flows between processes when it is a component of the project documentation for ANSI. The issue log is put at the same level than the risk register in the ISO standard.

**What's new in the 5<sup>th</sup> edition?**

Meetings (and not facilitation techniques(!?)) are introduced as a technique to manage the project execution. These meetings might trigger the creation of a change request when dealing with scope change proposals, process adaptations, etc.

<b>Process</b>	Monitor and Control Project Work	Control Project Work	Monitor and Control Project Work
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**What's new in ISO?**

For ISO, this process is in charge of the transformation of progress data into progress reports and forecasts. In the ANSI standard, this transformation occurs in the “Report Performance” process, which is also a controlling process.

ISO introduces also “Project Handover Reports” but doesn't detail its use.

**What's new in the 5<sup>th</sup> edition?**

The new edition of the ANSI standard goes into the same direction than ISO: The forecasts and the work performance information are analyzed in this process to produce performance reports.

<b>Process</b>	Perform Integrated Change Control	Control Changes	Perform Integrated Change Control
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**What's new in ISO?**

ISO uses more formally a change register, when it is a de facto document in the ANSI standard.

**What's new in the 5<sup>th</sup> edition?**

The change register is also more formal, with the name of a change log. “Change Control Tools” are introduced by the 5<sup>th</sup> edition in order to facilitate configuration and change management.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Close Project or Phase	Close Project Phase or Project	Close Project or Phase
<b>What's new in ISO?</b>	The closure report and released resources are explicit outputs of the ISO process, which is a clear improvement. ISO uses the project handover reports and certificates as formal inputs to confirm the well production of expected deliverables with the expected level of quality.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The 5 <sup>th</sup> edition doesn't confirm the explicit use of the closure report and released resources. It stays very close to the 4 <sup>th</sup> edition with the addition of analytical techniques and meetings as tools and techniques.		
<b>Process</b>		Collect Lessons Learned	
<b>What's new in ISO?</b>	This process has been introduced by ISO. It is a clear sign of the importance of knowledge management in learning organization even though it is not managed as a new knowledge area, as expected by many contributors. This process involves many situational outputs of other processes to produce a lessons learned document.		
<b>What's new in the 5<sup>th</sup> edition?</b>	This process has not been implemented in the ANSI standard, yet. On the other hand, many process outputs now include "Lessons Learned Documentation" in the "Organizational Process Assets Updates" general deliverable.		

5.2 PROJECT SCOPE MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
Process			Plan Scope Management

**What's new in the 5<sup>th</sup> edition?**

The new edition of the ANSI standard implements systematically a management plan for each knowledge area. It was an unclear area in the previous edition: The scope management plan was not covered in any process but mentioned as a subsidiary plan of the project management plan, for instance.

This new process has major outputs: The scope management plan that details how the scope will be managed and what templates will be used. The requirement management plan is also very interesting since it details how the requirements will be managed from the start until the end and how the configuration management activities will be handled.

Process	Collect Requirements		Collect Requirements
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**What's new in the 5<sup>th</sup> edition?**

The 5<sup>th</sup> edition has removed the inconsistent output of the "Collect Requirements" process which is the requirements management plan.

Process	Define Scope	Define Scope	Define Scope
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**What's new in ISO?**

ISO puts in this process the creation of the requirements documentation and makes an interesting link between the scope and its contribution to the strategic goals of the company.

**What's new in the 5<sup>th</sup> edition?**

No major addition.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Create WBS	Create WBS	Create WBS

**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** Whereas ISO shows the WBS and its dictionary as the sole outputs of the process, the new edition of the ANSI standard keeps the term of scope baseline. This is consistent with other knowledge areas: For instance, regarding time, the planning processes issue a schedule baseline, not one specific instance of such a baseline like a Gantt, a Pert, etc. The 4<sup>th</sup> edition had both outputs: A scope baseline, the WBS and its dictionary which was somehow redundant.

<b>Process</b>		Define Activities	
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**What's new in ISO?** This process has been moved by ISO in scope management. Detailed changes are showed in the next knowledge area.

<b>Process</b>	Verify Scope		Validate Scope
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**What's new in the 5<sup>th</sup> edition?** The 5<sup>th</sup> edition introduces an interesting points regarding the validation (instead of verification) of the scope: The acceptance of the deliverable is not made just upon the scope baseline but also on work performance data that includes the degree of compliance with requirements, the number of nonconformities and the severity of the nonconformities. This involves the validation to be made using group decision-making techniques.

<b>Process</b>	Control Scope	Control Scope	Control Scope
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**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** No major addition.

5.3 PROJECT TIME MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>			Plan Schedule Management
<b>What's new in the 5<sup>th</sup> edition?</b>	This new process details how time-related activities will be managed through the planning, the execution, the control and the closure of the project or phase.		
<b>Process</b>	Define Activities	Define Activities	Define Activities
<b>What's new in ISO?</b>	Except the fact this process is listed in the scope subject group, there is no major change compared to the ANSI standard.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition.		
<b>Process</b>	Sequence Activities	Sequence Activities	Sequence Activities
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition.		
<b>Process</b>	Estimate Activity Resources	Estimate Resources	Estimate Activity Resources
<b>What's new in ISO?</b>	ISO has moved this process in the Resource subject group. The process "Estimate Resources" deals with all kind of resources (like the ANSI standard) but since ISO put it in the Resource subject group, this group couldn't be "HR only" anymore.		
<b>What's new in the 5<sup>th</sup> edition?</b>	Activity cost estimate and risk register have been added in the list of inputs of the 4 <sup>th</sup> edition since risks and costs may impact resource selection.		

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Estimate Activity Durations	Estimate Activity Durations	Estimate Activity Durations
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The new edition of the ANSI standard adds the risk register as an input to estimating activity durations. This is interesting since there is a balance to find between 1) identifying and managing risks as such and removing uncertainty from the estimates and 2) keeping minor uncertainties in the responsibility of the team member, and therefore in the duration estimate, because the amount at stake is far minor than the cost of managing the risk.		
<b>Process</b>	Develop Schedule	Develop Schedule	Develop Schedule
<b>What's new in ISO?</b>	ISO introduces schedule constraints as an input of the schedule development which is making sense: Such information might impose deadlines (constrained milestones) to the schedule development.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The figure 6-17 related to the Critical Path Method gives a better view on how to compute early starts and finishes of the activities through the network diagram, according to their dependencies. It also depicts more in-depth the Critical Chain Method that is more and more used in project management. A new technique of resource optimization has been added: Resource Smoothing has the same intend that Resource Leveling except that it is kept within the activity float, so the project critical path is not changed.		
<b>Process</b>	Control Schedule	Control Schedule	Control Schedule
<b>What's new in ISO?</b>	ISO, in the process description, puts the emphasis on the necessity to produce schedule forecasts, in order to trigger change requests, if required.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The new edition adds the schedule forecasts as outputs of this controlling process.		



5.4 PROJECT COST MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>			Plan Cost Management
<b>What's new in the 5<sup>th</sup> edition?</b>	Like other management plan, this one has been added to cover the cost area. In the cost management plan are defined the control thresholds and the rules to be applied when using performance measures like EVM does.		
<b>Process</b>	Estimate Costs	Estimate Costs	Estimate Costs
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition. There is a minor point regarding weighted average of cost estimates: In addition to the PERT estimates, the new ANSI standard present a simple average $(C+M+P)/3$ .		
<b>Process</b>	Determine Budget	Develop Budget	Determine Budget
<b>What's new in ISO?</b>	The ISO standard doesn't show evidence that the determined budget is time based and can be used to determine funding requirements.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The new edition of the ANSI standard clarifies the inclusion of the contingency reserve in the cost baseline and the exclusion of the management reserve. This last reserve is part of the overall budget and the funding requirements. Regarding the contingency reserve, a new figure shows the understanding of PMI: An activity level and an overall contingency reserve are shown. This might indicate that risks and their associated reserve are managed at the work package level, not necessarily at the activity level.		
<b>Process</b>	Control Costs	Control Costs	Control Costs
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The 5 <sup>th</sup> edition indicates reserve analysis as a new technique. This answers the needs of project managers managing projects by risks.		

5.5 PROJECT QUALITY MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Plan Quality	Plan Quality	Plan Quality Management

**What's new in ISO?** ISO indicates the quality plan as an output of this process. This plan is a set of documents ensuring that the quality standards will be met. It seems that this covers the multiple outputs of the ANSI standard (quality metrics, quality checklists, process improvement plan, etc.). The quality management plan refers to the quality policy set by the permanent organization (or derived from it).

**What's new in the 5<sup>th</sup> edition?** The new edition introduces new tools ("Seven basics quality tools": cause & effect diagrams, flowcharts, check sheets, Pareto diagrams, histograms, control charts and scatter diagrams) and removed flowcharting and proprietary quality management methodologies.

<b>Process</b>	Perform Quality Assurance	Perform Quality Assurance	Perform Quality Assurance
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**What's new in ISO?** In the ISO standard, quality assurance is mostly concerned with the assurance that quality requirements are communicated and understood, and that established procedures are used. It says also that "quality assurance activities ensure that [...] product quality conform to project quality requirements and standards" which is a concern mostly address in the Quality Control process of the ANSI standard.

**What's new in the 5<sup>th</sup> edition?** Quality Management and Control Tools are more detailed than in the previous edition.

<b>Process</b>	Perform Quality Control	Perform Quality Control	Perform Quality Control
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**What's new in ISO?** Formal inspection reports are mentioned as key outputs.

**What's new in the 5<sup>th</sup> edition?** No major addition.

## 5.6 PROJECT HUMAN RESOURCE MANAGEMENT

This knowledge area is presented differently in the two standards and we need to take few minutes to understand the two points of view.

In both ANSI standards, the first process is “Develop HR Plan” (or “Plan HR Management” in the 5<sup>th</sup> edition). This process is in the planning process group. Other HR processes are execution processes: “Acquire Project Team”, “Develop Project Team” and “Manage Project Team”.

In the ISO standard, we can see that there is a first process “Establish Project Team” that appears in the Initiating process group.

Then follow the planning processes “Estimate Resources” and “Define Project Organization”.

The “Develop Project Team” is an execution process and we have two controlling processes “Control Resources and “Manage Project Team”.

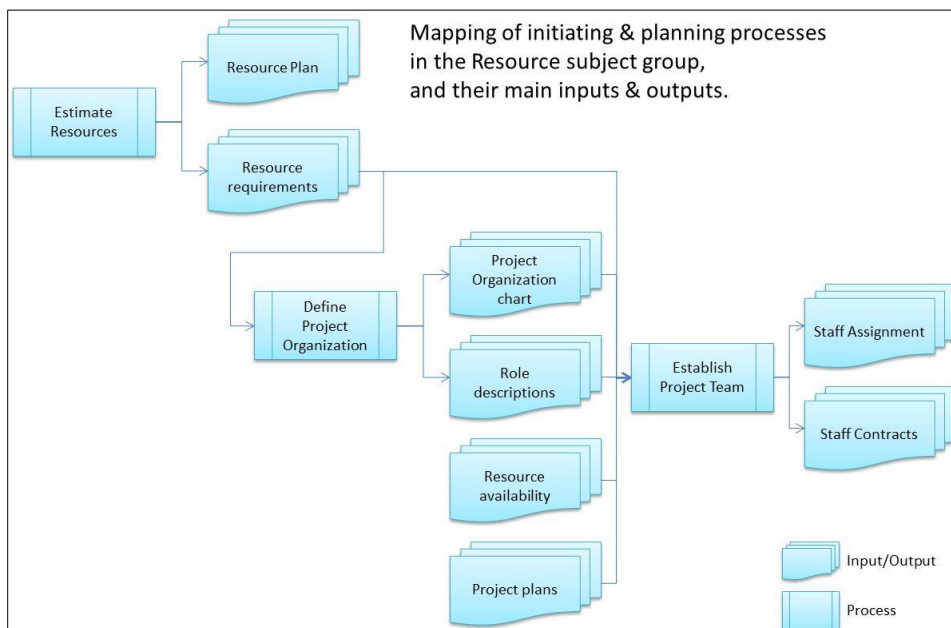
Gosh! The two standards have a completely different point of views! Not really!

ISO puts the process “Establish Project Team” in the Initiating process group because it is seen as a process that is performed continuously throughout the project.

ISO doesn’t mean that the team is built first, then resources are estimated and last the team is organized.

When one looks at the inputs and outputs of this process, it is very close to the ANSI standard point of view and corresponds to the “Acquire Project Team” process.

Let’s represent this graphically:



ISO answers this way to a concern: the project needs a team to perform the initiating and planning activities. So this process can be performed iteratively, and the main team set-up occurs in the planning.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Develop HR Plan	Define Project Organization	Plan HR Management

**What's new in ISO?** The "Define Project Organization" process aims to secure commitments from the permanent organization (team leaders for instance). Like the "Develop HR Plan", its objective is also to define the roles and responsibilities in the project, and to detail how resources will be acquired, how they will be rewarded and released.

**What's new in the 5<sup>th</sup> edition?** No major addition.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Acquire Project Team	Establish Project Team	Acquire Project Team

**What's new in ISO?** The ISO standard introduces the idea of staff contracts in addition to the staff assignments, which is interesting since, in many organizations, there is a more or less formal agreement between the functional managers and the project management team.

**What's new in the 5<sup>th</sup> edition?** The new release of the ANSI standard introduces a new technique to acquire the project team: Multi-criteria decision analysis uses more objective decision criteria like the cost, the availability, the experience, the knowledge, etc.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Develop Project Team	Develop Project Team	Develop Project Team

**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** No major addition.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Manage Project Team	Manage Project Team	Manage Project Team

**What's new in ISO?** ISO adds a new output of this process: Staff Performance and staff Appraisals. The distinction with Team Performance and Team Appraisals that are output of the "Develop Project Team" is not crystal clear but ISO presents such outputs as inputs for the organizational personnel appraisals and lessons learned.

**What's new in the 5<sup>th</sup> edition?** No major addition.

<b>Process</b>		Control Resources	
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**What's new in ISO?** With this new process ISO shows the importance of controlling resource assignments and allocations, the necessity to anticipate resource shortages or shifts and to address resource conflicts in availability.

5.7 PROJECT COMMUNICATIONS MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Identify Stakeholders		
<b>What's new in ISO?</b>	This process has been moved to the subject group "Stakeholders". See below.		
<b>What's new in the 5<sup>th</sup> edition?</b>	This process has been moved to the newly created knowledge area "Project Stakeholder Management". See below.		
<b>Process</b>	Plan Communications	Plan Communications	Plan Communications Management
<b>What's new in ISO?</b>	ISO identifies clearly an input to this process, "Role descriptions", in order to build the communication plan. This was implicit in ANSI standard since the Communication Management Plan includes responsibilities.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition.		
<b>Process</b>	Distribute Information + Report Performance	Distribute Information	Manage Communications
<b>What's new in ISO?</b>	<p>The processes "Report Performance" and "Distribute Information" have been merged into "Distribute Information".</p> <p>This process has the same inputs as "Report Performance" i.e. work performance information and forecasts. It aims to make the required information available to stakeholders (this is the same aim as the process "Distribute Information").</p> <p>This process also manages information distribution from stakeholders to the project in order to provide inputs to other processes (f.i. risk management).</p>		
<b>What's new in the 5<sup>th</sup> edition?</b>	<p>The new release of the ANSI standard also merges the two 4<sup>th</sup> edition processes. Tools and techniques presented by PMI include performance reporting that was initially in the "Report Performance" process.</p> <p>This revisited process goes beyond the distribution of relevant information and seeks to ensure that the information being communicated to project stakeholders has been received and understood. It also provides opportunities for stakeholders to make further information requests.</p>		

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>		Manage Communications	Control Communications
<b>What's new in ISO?</b>	<p>The purpose of this new process is to identify and resolve communications issues, and to ensure communication needs are satisfied.                      The outputs are accurate and timely information (resolved communications issues) and change requests, mainly on the communication plan.</p>		
<b>What's new in the 5<sup>th</sup> edition?</b>	<p>The 5<sup>th</sup> edition of the ANSI standard is close to the ISO considerations.</p>		

5.8 PROJECT RISK MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Plan Risk Management		Plan Risk Management

**What's new in the 5<sup>th</sup> edition?** The 5<sup>th</sup> edition has improved the list of tools and techniques for planning risk management. A non-exhaustive list of techniques is presented as well as the most important stakeholders who can provide their expert judgment. The list of inputs has been revisited also to improve consistency.

<b>Process</b>	Identify Risks	Identify Risks	Identify Risks
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**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** No major addition.

<b>Process</b>	Perform Qualitative Risk Analysis	Assess Risks	Perform Qualitative Risk Analysis
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**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** No major addition.

<b>Process</b>	Perform Quantitative Risk Analysis		Perform Quantitative Risk Analysis
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**What's new in ISO?** This interesting ANSI process has not been explicitly described by ISO. It may be considered as included in "Assess Risks" but the ANSI standard delivers a real added-value by describing more in-depth the statistical considerations and methods, and by delivering interesting outcomes like a probabilistic analysis of the project.

**What's new in the 5<sup>th</sup> edition?** No major addition.



	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Plan Risk Responses	Treat Risks	Plan Risks Responses
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	The 5 <sup>th</sup> edition removed an output of this process. "Risk-related Contract Decisions" is not anymore an outcome of this process. Such information is already carried through the updates on the procurement management plan which is an element of the Project Management Plan.		
<b>Process</b>	Monitor and Control Risks	Control Risks	Control Risks
<b>What's new in ISO?</b>	No major addition.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition.		

5.9 PROJECT PROCUREMENT MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Plan Procurements	Plan Procurements	Plan Procurement Management

**What’s new in ISO?** ISO added In-house capacity and capability to the list of inputs. This, indeed, might influence a lot the make-or-buy analysis, when compared to the resource requirements. Existing contracts are also considered as an input by ISO.

**What’s new in the 5<sup>th</sup> edition?** The main change introduces by the 5<sup>th</sup> edition is the addition of “Market Research” and “Meetings” as tools and techniques, and the removal of “Contract Types”. Contract types are now considered as inputs to this process, included in the “Organizational Process Assets”.

<b>Process</b>	Conduct Procurements	Select Suppliers	Conduct Procurements
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**What’s new in ISO?** ISO states more formally that three main activities are covered by this process:  
 1) Obtaining supplier responses  
 2) Supplier selection  
 3) Negotiation prior to agree on contract conditions

**What’s new in the 5<sup>th</sup> edition?** The PMBOK® Guide 5<sup>th</sup> edition changed few tools and techniques: “Internet Search” has been removed (it may be included into the general “Advertising” technique) and “Analytical Techniques” have been introduced.

<b>Process</b>	Administer Procurements	Administer Contracts	Control Procurements
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**What’s new in ISO?** The ISO standard doesn’t detail two major concerns that are well highlighted in the ANSI standard: Payments and Claims administration.

**What’s new in the 5<sup>th</sup> edition?** No major addition.

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>	Close Procurements		Close Procurements
<b>What's new in ISO?</b>	ISO considers this activity being part of the integration process "Close Project Phase or Project". This process identified "Completed Contracts" as an output.		
<b>What's new in the 5<sup>th</sup> edition?</b>	No major addition.		

5.10 PROJECT STAKEHOLDER MANAGEMENT

	PMBOK® Guide 4 <sup>th</sup> processes	ISO/DIS 21500 processes	PMBOK® Guide 5 <sup>th</sup> processes
<b>Process</b>			Plan Stakeholder Management

**What's new in the 5<sup>th</sup> edition?** This new process introduces a new concern regarding stakeholder engagement. It details how are analyzed the current and desired levels of engagement. It highlights the fact that levels of engagement may change according to the project situation and timeframe. Alongside the levels of engagement, this process identify the interrelations between stakeholders

	Manage Stakeholders Expectations	Manage Stakeholders	Manage Stakeholder Engagement
<b>Process</b>			

**What's new in ISO?** No major addition.

**What's new in the 5<sup>th</sup> edition?** No major addition.

			Control Stakeholder Management
<b>Process</b>			

**What's new in the 5<sup>th</sup> edition?** This new process ensures comprehensive identification and listing of new stakeholders, reassessment of current stakeholders and removal of stakeholders no longer involved in the project. It monitors the changes on the stakeholder interrelations and controls their engagement, in order to adapt the stakeholder management strategy if needed.

## 6 CONCLUSION FOR THE SPECIALISTS

Throughout this review, we see the most important addition of the ISO standard being the addition of a formal knowledge area to deal with stakeholders.

A step towards the management of knowledge has been made in the ISO standard without becoming a knowledge area by itself.

The PMBOK® Guide 5<sup>th</sup> edition incorporate also this major change. On the other hand, the new version of the PMBOK® Guide didn't reassign processes in different knowledge areas like ISO did.

The major addition of the PMBOK® Guide 5<sup>th</sup> Edition compared to its predecessor is the fact that, from now on, a knowledge area always starts with the concerned subsidiary management plan.

Many project managers expected to see the emergence of iterative approaches in decomposing the scope and executing the project: Both standards are very "cascade approach" oriented.

Maybe, the most important point is the fact that current trainings don't need a tremendous revisit to be consistent with the new PMBOK® Guide. Simplification and consistency concerns drove this new edition, together with the new knowledge area.

## 7 MANAGEMENT CONCLUSION

The important consistency between the ANSI and the ISO standards will definitively help the profession.

PMI certifications will continue to promote structured project managers and these project managers (or associates) will definitively help a lot of organizations to align their project management processes toward ISO recommendation.

This mutual contribution is likely to continue since a new technical committee has been set-up to deal with program and portfolio management. And the organization of this new committee is the same than the committee producing the ISO/DIS 21500 standard.

This might also lead PMI to certify portfolio managers in the future...

PMI confirms its leading position to certify program managers, project managers and associates who will feel “at home” in ISO oriented organizations.

In the future, if ISO/DIS 21500 becomes the basis of a certification, there will be an advantage for companies to have PMI certified project and program managers onboard.