Closing the loop for full service life: Did we get what we asked for and paid for?

Gerald Davis, IFMA FELLOW, ASTM FELLOW, CFM, AIA, President, International Centre for Facilities, Inc., and Francoise Szigeti, President, TEAG – The Environmental Analysis Group, www.icf-cebe.com

You Need What?

Your company is evolving, working hard to keep up with the competition. You're the facility manager, and your job is to make sure that all the physical assets your business needs are available—at the right places and at the right times. Whether dealing with space utilization, carpet cleaning, installation of a new kiosk, completing a major roof repair, or even planning a new branch office, you are expected to translate business goals into accurate facility management budgets and plans, and in a way that your CEO can understand.

The data you use to make informed decisions are all there—somewhere. What you need is a way to bridge the gaps between data groups—from planning to accounting, engineering, operations, and finance--so that your capital asset management program is fully integrated, documented, and strategically focused to support your corporate goals.

1. Demand and Supply in Facility Management Decisions

With the new tools described in this paper, you can now objectively determine the extent to which each of your assets "fits" the mission of your organization as well as the needs of the users. Essentially, you can compare your organization's (and customer's) functional requirements (demand) with your current or planned capability (supply) to identify "gaps" between your demand and supply profiles, and then create, combine, or otherwise implement projects in a way that closes the gaps.

An innovative decision-making tool box, based on familiar demand and supply concepts, can help. The tool box employs standardized performance metrics that for the first time allow you to link your buildings' functionality to the functional requirements of your organization and your customers. You can now plan, prioritize, and budget projects for major repair and alteration, and for new construction, using a multi-criteria, demand and supply approach that is transparent, comprehensive and auditable, and in a way that is faster, easier and less costly than in the past.

In the past, facility repair and alteration (R&A) decisions were all too often based on subjective considerations, particularly when dealing with large portfolios of properties. When R&A funds are short, the squeaky wheel usually got the grease. Recently, facility condition assessments (FCA) have been used to bring structure and consistency to the allocation of limited R&A dollars among competing projects. However, FCAs are still of limited value to the facility manager—they generate long lists of candidate R&A projects, but provide little if any useful information about whether or not the project should really be funded.

Should a new roof project be approved for a facility that is not functionally sound any longer, as happened to one organization we know? What is "excellent" versus "appropriate" condition, and how should this distinction influence budgeting decisions across your enterprise? The facility condition index compares its present replacement cost to the cost of bringing a facility back to its original design – but bringing a facility back to its original design condition may be, and often would be, inappropriate and wasteful.

The problem is similar for new construction projects. How to specify the functionality and service life required by users is not enough. A manager needs also to know whether he or she will get that required functionality from a proposed facility, *before* paying the money to build it!

The innovation that allows facility managers to make informed decisions about projects or to present recommendations to senior management is first to set scalar levels of demand (requirements) and supply (capabilities) for each of several facility performance attributes. Then, second, these numerical descriptors are linked to candidate R&A projects, or even to demolition or new construction projects.

To set these levels, each scale provides a matched, numbered set of descriptions that profile building requirements and capabilities in a standardized, quantified, and comparable way. Each building performance attribute is ranked from level 0 (unacceptable or not required) to level 9 (most required).

The key is that all scales are calibrated to give comparability and consistency in accordance with accepted standards. The methodology was developed in Canada, is proposed for an ISO standard, is already accepted as American National Standard methodology from ASTM International, and had been adapted for use elsewhere. This methodology makes it easy to deal simultaneously and quickly with many more variables than are normally considered, at a much lower cost, with much less time spent by decision-makers.

2. A recent example

One of the biggest property managers in the world—the U.S. Federal Government—provides an excellent test-bed for the integrated Demand/Supply facility management toolbox. Bureaucracy, stovepipes, funding uncertainty, politics, and other factors all combine to create an ever-growing list of R&A projects. The national infrastructure continues to deteriorate, and as a result U.S. federal government agencies are feeling very real pressure to somehow adapt their antiquated facility management procedures.

The U.S. Coast Guard (USCG) is using the toolbox to improve how its Logistics Support functions meet the requirements of its missions, its strategic goals and its operational units. It applies this fact-based, objective, approach to the budgeting and prioritization process for R&A projects. It integrates information captured using the toolbox's scales, which are based on the "*ASTM Whole Building Functionality and Serviceability Standards*" (Suitability Index), with the data provided by other performance indexes such as the Mission Dependency Index, Facility Condition Index, System Criticality Index, and the Space Utilization Index. A weighting factor is provided by considering the relative importance of certain criteria to the mission of the operational group using the facility to be repaired.

The key scalar data are efficiently captured over the intranet of the organization, using web-based software. Thousands of candidate R&A projects worth many tens of millions of dollars are then ranked, taking into account all the indexes that are currently available as part of an integrated process—and the key decision-makers are involved in every step of the process.

So, how can the USCG experience help you? Consider:

- ◊ In the past, functionality assessments were not normally conducted because there were no tools to give consistent, objective levels of requirement to match explicit levels of supply capability. Nor was it possible to prioritize R&A projects while taking functional assessments into account. The USCG project demonstrates how this can be done. R&A projects can be objectively linked to your organization's business goals, quickly and efficiently.
- ◊ The underlying "gap" methodology has now been successfully used with a number of different types of constructed assets and other logistics support requirements, and in a very complex, politically driven decision-making environment. Are your building requirements or decision processes any more complex?
- ◊ Traditional building inspections and condition surveys were normally done by recording observed deficiencies at periodic intervals. They are often times subjective and results are seldom calibrated. The tool box provides data that are captured in a standard manner and calibrated so that you can compare data

between and across your facilities, whether collected by you or your vendors. Accordingly, your data and your decisions are replicable, and in this case replicability equals credibility.

◊ In every business, the target is to capture only the data needed to the level of detail needed for the decision to be made. Detailed programming and inspection data are not needed for budgeting purposes. In fact, such data are usually obsolete by the time a project is underway. The tool box supports "just in time" data collection whether you are involved in portfolio-level strategic planning, building-level maintenance planning, or day-to-day project execution. Finally, everyone can sing to the same sheet of music.

3. What is the demand-supply process?

Figure 1 diagrams the relationship between the methodology and the life cycle management of facilities. It is also applicable to other forms of logistic support.

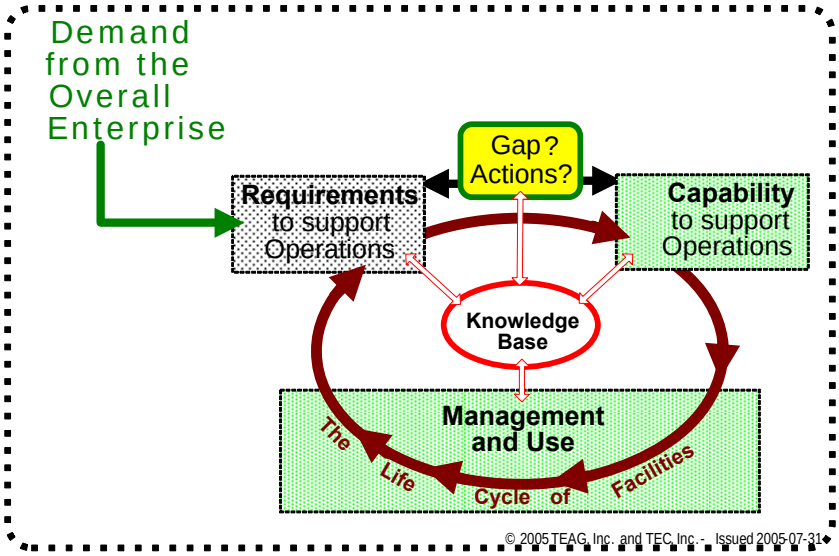


Figure 1. Logistics Readiness Gap Analysis

For any particular organization, a set of functionality requirements levels should be the core of strategic planning and budgeting because it is mission driven, independent of the facilities, or other assets, logistics, and infrastructure the organization now uses, or might possibly use in the future (zero-based planning). Such a set becomes a functionality requirements profile (demand profile).

The set of levels of capability of a facility to meet those functionality requirements become its supply profile, the summary of how well it supports the missions of its users.

Project planning should focus on strengthening capability for mission, and fixing problems that affect mission. The approach can identify when there is a match, or fit, between demand and supply. It calls attention to gaps which affect mission and, therefore, to deficiencies that rise in importance above basic stewardship of assets. By identifying the supply elements that are deficient, this approach can be actionable and tie to projects or solutions to close the gap.

This approach eases communication among stakeholders. It provides essential content for programming (Problem Statement / Statement of Requirements) and for setting budget priorities.

Organizations with multiple facilities and other assets that share similar functions use the demand and supply approach to create an accurate and comparable record across their portfolio.

The core of this approach is diagrammed in Figure 2.

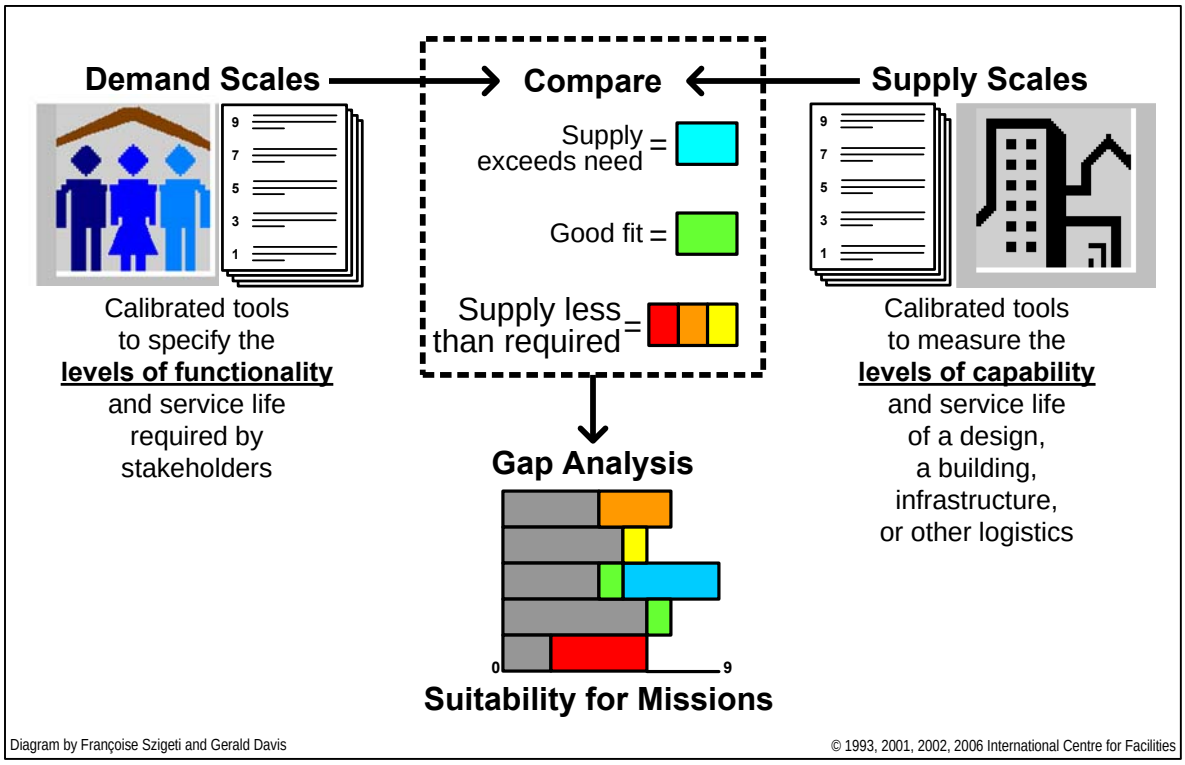


Figure 2. Suitability: Compare capability of supply to demand requirements

Each demand scale, at left in Figure 2, is a multiple-choice question, that is, set of possible answers to the question, "What functionality do you need from this facility, or this form of logistics support, to get the job done?" The demand scales are calibrated according to the left hand column in Table 1 at end of this paper. Figure 5 is an example of a demand scale.

Each supply scale, at right in Figure 2, is a similar multiple choice question, a set of descriptions of a facility feature or level of support. Respondents to the supply scales are asked, "Which of these statements best describes what is physically present in the facility, or best describes the level of support provided." Figure 6 is an example of a supply scale.

The supply scales can also be used to rate the expected capability of a facility not yet built or altered, by asking, "Which of these statements best described what will be present in the facility, after construction?" Supply scales are calibrated according to the right hand column in Table 1.

The approach speeds up the assessment of current facilities and other assets, services and products, and the decision process for budget planning and management, to optimize capability for mission. It also speeds up the recording of requirements in a structured manner. This gives users the possibility to contribute information about what they need to do their job.

Figure 3 summarizes the flow of information over the life cycle of a facility or constructed asset, from a management point of view. This includes the feedback loop that links a facility in use to the requirements and capabilities that are compared and matched whenever decisions are needed, for instance as part of portfolio management, during the feasibility phase before a project is launched, at the start of the project, during design, construction and commissioning, when resources need to be allocated for operation, maintenance and repair, when major alterations, repairs or renovations have to be procured, and so on.

As diagrammed in Figure 3, the comparison of demand and supply-is one of several metrics used in the allocation of funds. Others include Building Condition Index, Relative Mission Importance, Building System Criticality and Flags such as regulatory requirements, fire and life safety, and environmental issues. All these

become factors in a formal mathematical algorithm used to calculate a priority score for each project being considered for funding.

The metric serves in a number of ways, such as to:

- Identify surpluses, matches and shortfalls of capability at significant decision points in the ongoing Life Cycle Management of individual assets and portfolios of assets, by having the appropriate information available at each decision point, and the ability to drill down when necessary, or synthesize results up the chain (or bubble-up).
- Identify projects or other solutions to remedy the gaps by linking to specific logistics support and to identified operating units.
- Capture data on functionality required (zero-base budgeting) once in each annual cycle. Update or validate when a significant event occurs, or higher authority directs a change.
- Capture initial data and summarize key information about the capability of assets to provide support to the business or operating units. Update or validate when a significant event occurs or every 5 years at a minimum.

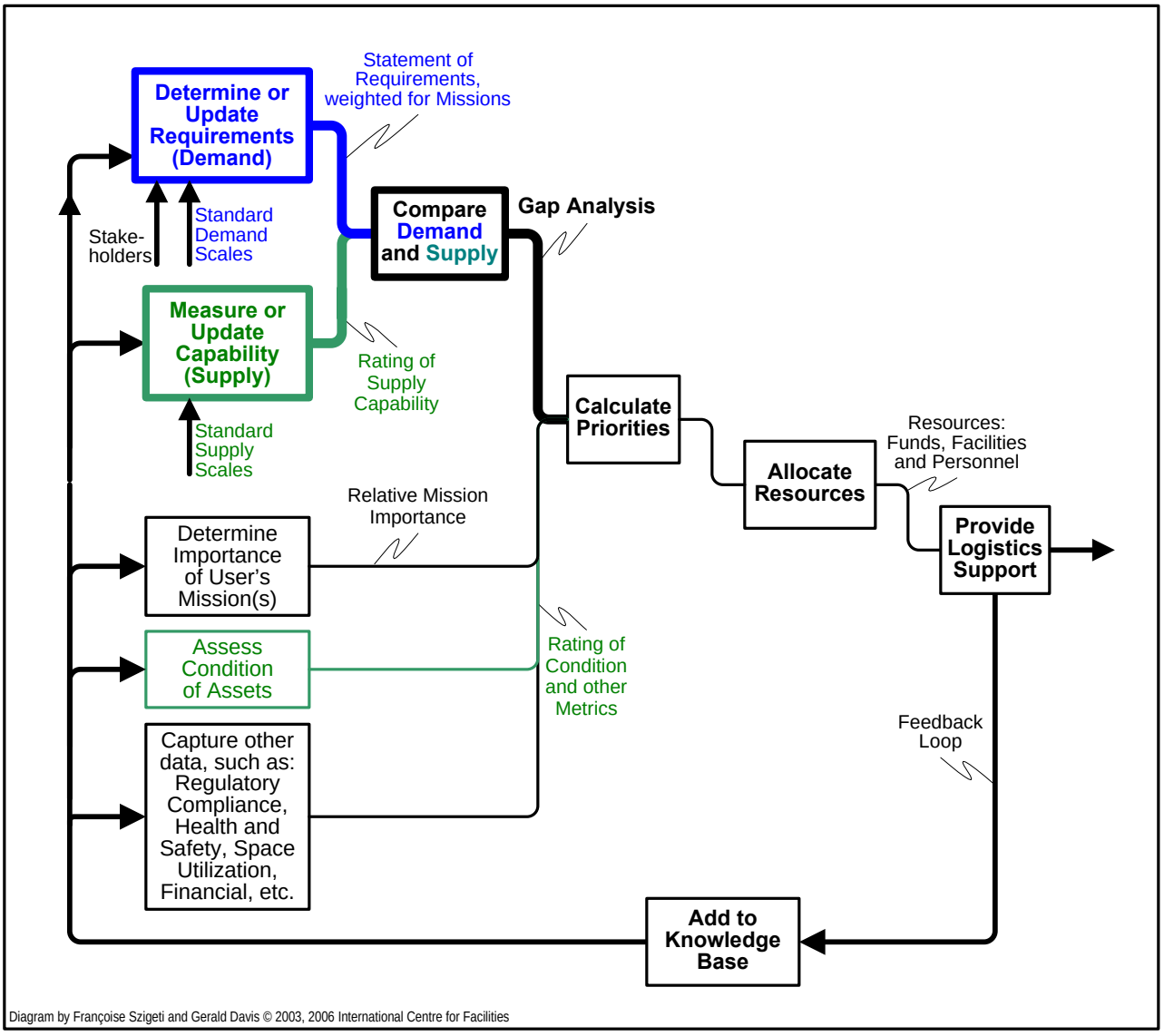


Figure 3. Feedback Loop for Allocation of Resources to Best Support Operations

- Support preparation for solutions, which may call for projects, and which contain much of what is generally called a Statement of Requirements.
- Compare project results against requirements at certain stages in the project delivery process.
- Compare performance-in-use of assets and logistics support against requirements whenever necessary during the life cycle of assets.
- Deliver a graphic summary of the collected data using web-enabled software based on existing commercial off-the-shelf software, adjusted to the needs of the organization.
- Use auditable measures, as key performance indicators (KPIs) which are transparent, objective, consistent, comprehensive, and replicable, yet easy to use, to compare requirements with the capability of assets and installations to support operations.
- Provide crucial information for real-time strategic decision-making in direct support of operations, with participation of operational executives.
- Be congruent with ISO 9001, and a quality / performance based approach to managing facilities.
- Be tagged to UNIFORMAT II where appropriate.

3. Providing decision support information to Decision-Makers

3.1. Information management for Drill-Down and Bubble-Up

Information about facilities is used by managers in many roles. Senior operations managers need to know if there are appropriate facilities to support their concept of operations, and their strategy. Will logistics support specific missions? If there are shortfalls, they want to drill down into the information base until they understand enough to make appropriate decisions.

Senior logistics support managers, on the other hand, need to know of any gaps in the readiness of their facilities. Senior logistics managers need information about shortfalls to bubble up for attention, so that corrective actions can be taken, with priority for those most important for mission. Using web-enabled software, a manager is able click on any summary data point to drill down for more detailed information about surpluses, matches or shortfalls. Figure 4 diagrams this drill down, as well as the bubbling up of information that focuses on significant differences between what is required or expected and what are actual levels of logistics readiness in a given sector, weighted for importance to mission.

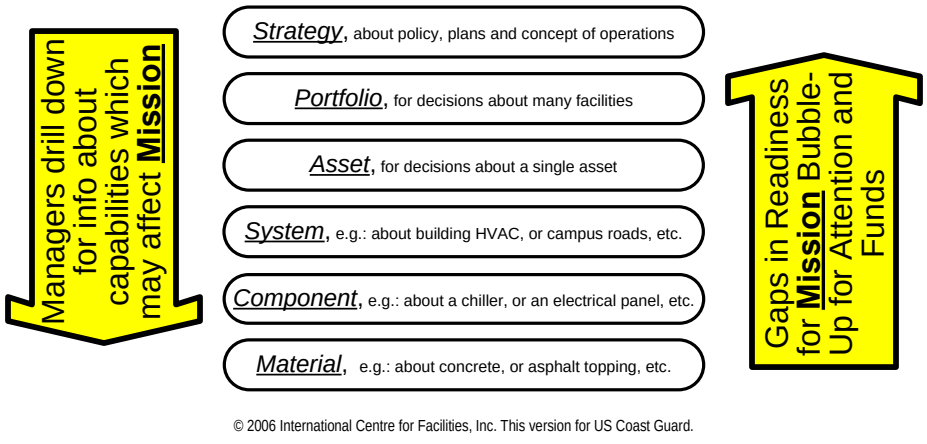


Figure 4. Managers drill down for Mission gaps. Readiness gaps bubble-up for attention.

3.2. *A Demand Profile for each category of Operational Unit and a Supply Profile for each category of Logistics Support Units*

As an example, at the US Coast Guard, each category of operational unit, such as Cutters or Aids to Navigation units, has its own demand profile (set of functionality requirements levels), made up of its requirements levels for the various forms of logistics support covered in the demand scales. These scales allow each unit or command to select which statements of demand best describe what it needs to support its mission(s) and enhance its effectiveness.

Similarly, the supply scales allow a facility manager or other service provider to select which statements of supply best describe the capability of what is physically present in the facility, or what other support to mission is actually being provided.

Figures 5 and 6 contain an example of a pair of scales drawn from the US National Standard set of scales for office facilities.

*►Below left is an example of a scale (multiple-choice question) for setting the **required level** of Logistics Support on one topic.*

Motorists or pedestrians to be able to find and Identify the building:	*Additional standard questions for Demand Scales:*
○ 9 = Very easy, even for those unfamiliar with the locality. ○ 7 = Easy, even for those not very familiar with the locality ◉ 5 = Easy to find for those familiar with the locality. ○ 3 = Most visitors are regulars, so finding the building is not important. ○ 1 = The building should be hard to identify for those not familiar with it. ○ 0 =No requirement.	**This requirement is:** ○ Exceptionally important ◉ **Important** ○ Less important **The minimum level which allows compliance with mission or directive is:** ○ 9 ○ 7 ○ 5 ◉ 3 ○ 1 ○ 0 ***OR*** ○ **No minimum threshold**

○ Lack information ○ Not applicable
○ Refer this question to someone else
○ Decision postponed, will answer later

Figure 5. Example of a Scale (Question) for Demand at Asset Tier (including Relative Importance and Threshold Questions)

*Below left is an example of a scale (multiple-choice question) for setting the **present capability** level of Logistics Support on one topic.*

Motorists or pedestrians to be able to find and Identify the building:	*Additional standard question for Supply Scales:*
○ 9 = Clearly visible, easy to recognize, a landmark,. ○ 7 = clearly visible and recognizable ◉ 5 = visible, identifiable, not easily confused with neighbors ○ 3 = Obscured from some directions. Similar to adjacent buildings. ○ 1 = Hardly distinguishable from adjacent buildings, e.g. facades are almost the same. ○ 0 = Not distinguishable or identifiable.	☐ **If this level is achieved by a work-around, rather than by normal capability, please check the box at left.** *If you check the above box, you will be asked to briefly identify what the work-around is, and why it is needed.:*

○ Lack information
○ Refer this question to someone else
○ Decision postponed, will answer later

Figure 6. Example of a Scale (Question) for Supply Capability

Within each category of operational units, the demand profile for any individual unit can be fine-tuned according to the mix of mission priorities in its Area of Responsibility. The web-enabled computer software can automatically identify and display where there is a significant gap for management to consider.

The resulting demand profile can be compared to the supply profile of the various logistics support units. Differences, if any, are due to either a surplus or shortfall of capability. Demand and supply information and gap analysis can be used to support decision-makers with various scopes and responsibilities, from a **Strategy** Tier to a geographic or functional **Area** or **Portfolio** down to **Asset**, **System**, **Component** and **Material**. (See Figures 4.)

3.3. Information for Executive Decision-Makers

Knowing ***what*** to decide and identifying those few issues which must be resolved, are core uses of information for senior executives responsible for strategy, policy and plans over a geographic area or corporate function, and their strategic planners and managers.

Summary information at the **Strategy** Tier should have this focus. For instance, among the first questions a Senior Executive might ask would likely be, "Are there any thresholds which would prevent achieving the mission(s)? Are there any other significant shortfalls which require the immediate attention of top management? Are there any reserves or surpluses which can be used to mitigate these issues? When a specific issue arises, application software allows executives to conveniently drill down to specific operational units or to categories of logistics support.

Their deputies and planners also have convenient tools to drill down into details at the **Asset** and **System** Tiers, to better understand specific problems and confirm potential solutions.

3.4. Significant Difference

When both demand and supply levels have been entered or changed for any topic for any operational or logistics support unit, the computer can immediately compare them. A set of business rules is followed to calculate the gaps and whether the difference between demand and supply is "significant".

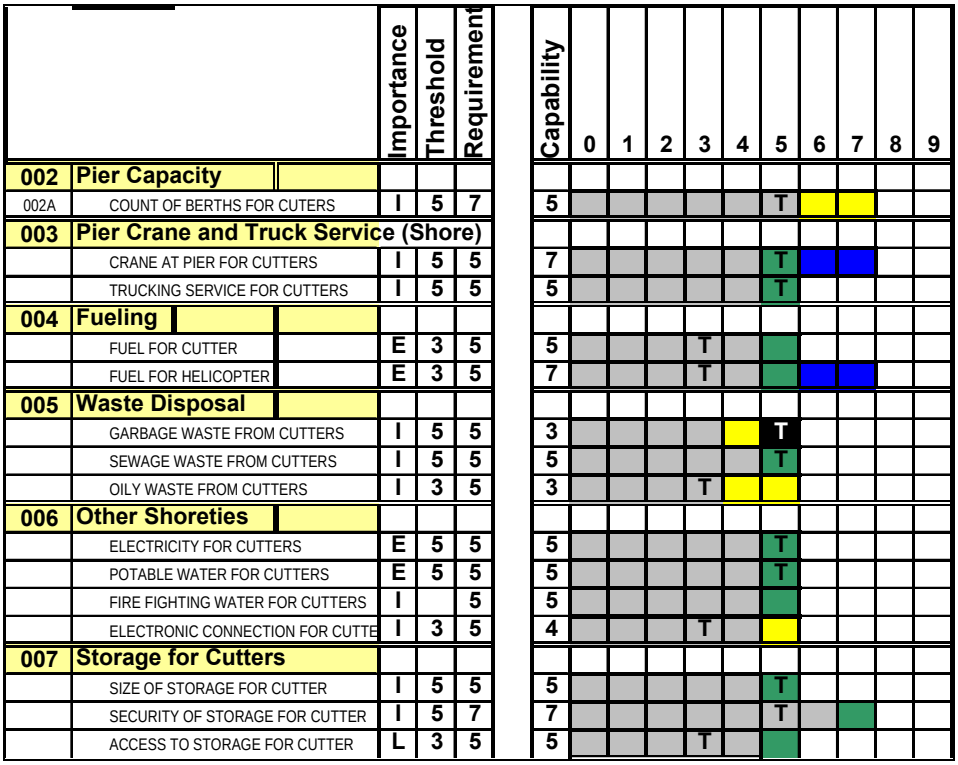
Also, for a topic of any importance, if the threshold level is missed by even one level it is considered significant and reported separately. Threshold is the level of requirement which, if missed, would require adjustment to the strategy or operations of a business unit or category of units or trigger an immediate action with regard to the logistics support involved.

These business rules, which have worked well for other large organizations in the public and private sectors, can be fine-tuned if necessary.

To allow comparison of data across the organization, once set, the business rules used to calculate the gap must be consistent, and must not be changed by any subordinate command. However, the organization is able to change these business rules if there is an abrupt change of circumstances.

3.5. Information for Facility Managers, Facility Engineers, and Civil Engineering Units

Managers with more limited responsibility and authority will use the **Asset** and **System** Tiers to (a) compare the functionality and capability of major assets within their area of responsibility or their installation, (b) identify significant surpluses and shortfalls, and therefore potential projects and (c) plan, budget and allocate funds for projects, including a first cut at a Problem Statement as part of the phase sometimes known as Feasibility Planning. In addition to information from the **Asset** and **System** Tiers of scales (questions), such managers would also draw on the **Component** and **Material** Tiers to (a) verify or adjust requirement levels for a potential project, (b) prepare the next stage of a Problem Statement, (c) obtain preliminary cost estimates for such projects, (d) substantiate a request for funding for the proposed projects, and (e) monitor the project against stated requirements.



		Importance	Threshold	Requirement	Capability	0	1	2	3	4	5	6	7	8	9
002	Pier Capacity														
002A	COUNT OF BERTHS FOR CUTERS	I	5	7	5						T				
003	Pier Crane and Truck Service (Shore)														
	CRANE AT PIER FOR CUTTERS	I	5	5	7						T				
	TRUCKING SERVICE FOR CUTTERS	I	5	5	5						T				
004	Fueling														
	FUEL FOR CUTTER	E	3	5	5				T						
	FUEL FOR HELICOPTER	E	3	5	7				T						
005	Waste Disposal														
	GARBAGE WASTE FROM CUTTERS	I	5	5	3						T				
	SEWAGE WASTE FROM CUTTERS	I	5	5	5						T				
	OILY WASTE FROM CUTTERS	I	3	5	3				T						
006	Other Shoreties														
	ELECTRICITY FOR CUTTERS	E	5	5	5						T				
	POTABLE WATER FOR CUTTERS	E	5	5	5						T				
	FIRE FIGHTING WATER FOR CUTTERS	I		5	5										
	ELECTRONIC CONNECTION FOR CUTTE	I	3	5	4				T						
007	Storage for Cutters														
	SIZE OF STORAGE FOR CUTTER	I	5	5	5						T				
	SECURITY OF STORAGE FOR CUTTER	I	5	7	7						T				
	ACCESS TO STORAGE FOR CUTTER	L	3	5	5				T						

Figure 7. Example of Portion of the Compare Profile (mock-up) of Logistics Support for a Single Coast Guard Cutter. (Not Real Data – Levels are Random)

3.6. Importance of the question, and threshold levels

Two complementary data points about functionality requirements are needed to provide correct balance when calculating gaps for groups of topics, and for determining how significant a gap really is. First, the relative importance of the subject matter of each topic is recorded, as a response to the question, "How important is the content of this topic for carrying out the mission(s) of this unit, compared to the content of all the other topics?" Responses may be "Exceptionally Important," "Important," or "Less Important." For instance, ready availability of fitness training facilities would likely be Exceptionally Important for a Coast Guard Port Security Unit, but Less Important for an office organization which encourages telecommuting, with a majority of its staff working from home. Access to shopping in the office building or adjacent would likely be Less Important in localities where shopping for a broad range of products provides choices and price points conveniently in the local economy.

Second, the respondent will be asked if there is a minimum threshold level, below which the ability of the unit to carry out its mission(s) would be significantly impaired. For instance an office unit may require only basic electrical utilities for its desktop computers, giving a demand level of 5 on the scale from 0 to 9. On the other hand, the unit would be wholly shut down without its computers, so its minimum threshold level would also be a 5.

3.7. Spreadsheet outputs

For comparison of profiles, having the data in spreadsheet format is particularly convenient. A spreadsheet profile should list the Topics and the data for level, importance and threshold, as is given in Figure 7. Many profiles can be displayed side by side in a large spreadsheet, together with the identity of person who set the levels and other relevant data. Any person with responsibility to enter or approve or modify data about

logistics readiness of certain facilities should be able to obtain from the data base the data on any selection of such facilities, in spreadsheet format.

4. The proposed ISO standard

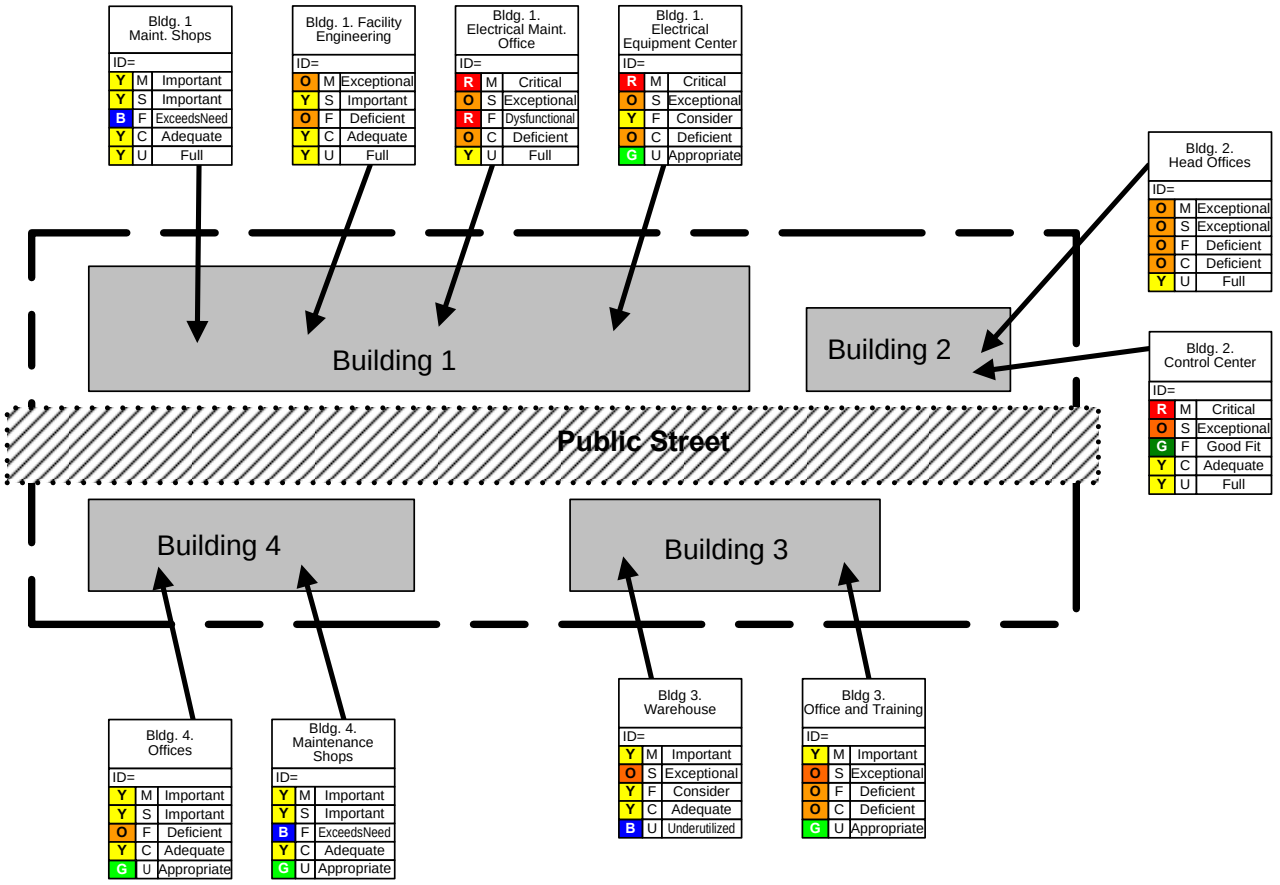
The work of SC14/WG10 will provide a methodology to capture and analyze information on how to ensure that facilities and constructed assets are suitable for the mission(s) of an organization and responsive to the objectives which are set for such assets.

To implement a performance-based approach to renovation and capital projects, and provide the necessary supporting information to decision-makers, it is crucial to define, capture and describe explicitly the objectives and requirements of organizations, the condition of current facilities, other constructed asset and logistics support, to maintain such a database of information on an on-going basis, and to use robust ways of verifying that the results have indeed been obtained. Being able to compare and match requirements to logistics resources and constructed assets, including facilities, is key. Otherwise, conformance of results to stated levels of performance required cannot be verified. On the other hand, assets are not "good" or "bad". They are "more" or "less" suitable and responsive to the stated objectives and requirements, explicit and implicit.

The proposed methodology, to be standardized in SC14/WG10, will provide for the creation of tools to measure demand (requirements) and supply (capability to respond). These are being structured in such a way that organizations can follow the trail of their requirements.

This methodology will incorporate the work of the IAI (International Alliance for Interoperability) PAMPeR (Portfolio and Asset Management: Performance Requirements) project. The PAMPeR project created a property set that is now included in the latest IAI IFC version 2x3. This property set allows data that is properly "tagged" in one data base to be transferred to other IFC-compliant databases, provided that they include fields that have the same tags. It is essential that information about organizations and their facilities be available "interoperably" through all phases of the life cycle, including management, operation and use. The IAI's Industry Foundation Classes (IFC) and property sets are data standards that enable "whole-loop" interoperability and true facility lifecycle information in organizational databases (Figure 1).

Such information, and its interoperability between different software applications, is of significant importance to facility managers and other decision makers who deal with the logistic support functions of their organizations. In particular, this methodology will provide the means to benchmark constructed assets in a consistent, transparent, auditable manner. This will provide a sound foundation for customer satisfaction, for choosing options that fit the requirements of the users, and for setting budget priorities in relation to multi-criteria analysis. It will also provide the basic information about facilities and their users throughout the life cycle of the constructed asset.



Notes:
(1) Of the issues in the legend, only 5 are displayed in the Suitability Stamps above. Each issue can be toggled to display or be hidden. Issues for which data is not yet available or lower priority have been toggled "off" in the above diagram.
(2) At this time, the data in the suitability stamp for each zone of a building is manually entered based on underlying reports. Some is already embedded in the virtual Building Information Model (BIM) of the facilities.
(3) Condition is assessed relative to required remaining service life.
(4) "Security" represents the fit between security required and the actual situation.
(5) Importance for the mission is derived from the Business Strategic Plan.
(6) Data on Functionality is derived from the gap analysis using the Functionality-Serviceability tools and methods in *ASTM Standards on Whole Building Functionality and Serviceability*, and the categories for action in the table below.

LEGEND: STAMP FOR SUITABILITY IN RESPONSE TO REQUIREMENTS

ID = Real Property Facility Number + sub-codes as needed

M=Mission Importance	
Red	Critical
Orange	Exceptional
Yellow	Important
Green	Minor
Blue	Not Required

S=Security	
Blue	Redundant
Green	Mitigated
Yellow	Consider
Orange	Deficient
Red	Urgent

F=Functionality-Serviceability	
Blue	Exceeds Need
Green	Good Fit
Yellow	Consider
Orange	Deficient
Red	Dysfunctional

C=Condition and Service Life	
Blue	Exceeds Need
Green	Appropriate
Yellow	Adequate
Orange	Deficient
Red	Urgent

B=Building Codes	
Blue	Exceeds Need
Green	Appropriate
Yellow	Adequate
Orange	Deficient
Red	Urgent

R=Real Property Factors	
Blue	Not Required
Green	Minor
Yellow	Important
Orange	Exceptional
Red	Critical

E=Environmental	
Blue	Not Required
Green	Minor
Yellow	Important
Orange	Exceptional
Red	Critical

U=Utilization	
Blue	Underutilized
Green	Appropriate
Yellow	Full
Orange	Cramped
Red	Overutilized

$=Total Costs of Ownership	
Blue	Minimal
Green	Minor
Yellow	Important
Orange	Exceptional
Red	Critical

Diagrams by Françoise Szigeti and Gerald Davis in collaboration with SHIP Technologies, Inc.

Figure 8. Example of data display: Suitability in response to requirements

Table 1. General Calibration Rule for Scales for Functionality-Capability

Guideline to construct a functionality requirements scale	Guideline to construct a serviceability rating
▪ **9 =Most functionally demanding.** ▪ **8 = (Some of 9 and some of 7)** ▪ **7 = Clearly more than level 5, but not the most demanding** ▪ **6 = (Some of 7 and some of 5)** ▪ **5 = Typical mid-range and normal functional requirement** ▪ **4 = (Some of 5 and some of 3)** ▪ **3 = Least requirement of this occupant function, program or** ▪ **2 = (Some of 3 and some of 1)** ▪ **1= Least required, or functionally demanding, or can be a temporary requirement, or minimal, or not accepted in a permanent facility, or appropriate because minimal.** ▪ **0 = Never acceptable, "must not have."**	▪ **9 = Indicators of the highest level of functional capability likely to be found in facilities.** 8 = (Some of 9 and some of 7) ▪ **7 = Clearly more than level 5, but not the most capable.** ▪ **5 = Typical mid-range facility in the inventory for this functional category of facility, in the whole country or region.** ▪ **3 = Clearly less than level 5, but appropriate for some situations.** ▪ **1= Lowest level of functional capability likely to be found.** ▪ **0 = Not present or do not have.**
☐ Decision postponed ☐ Lack information. ☐ In-depth evaluation required ☐ Not applicable.	☐ Decision postponed ☐ Lack information. ☐ In-depth evaluation required ☐ Not applicable.
☐ Exceptionally important ☐ Important ☐ Less importance	
Minimum allowable level (threshold); or, level of criticality (if any) = 9 8 7 6 5 4 3 2 1 0	

Project Note: Francoise Szigeti and Gerald Davis have been part of the team working with the US Coast Guard Maintenance & Logistics Command Pacific, under the leadership of CAPT Mike Valerio, Ph.D., Chief of Civil Engineering, to create and implement this new approach to budget allocation and prioritization. They have been working in the FM-CRE field more than 35 and 45 years respectively. They are focused on making facilities work better for the occupants, stakeholders and other users. Collectively, they have tackled facilities from A to Z, Airports to Zoos, at all phases of the Life Cycle Management. Francoise Szigeti and Gerald Davis can be contacted at +1-613-727-1788. In this work, they collaborated with Jeff Villnow and Rich Tremaglio, of TEC, Inc. who can be contacted at +1-425 453-4040. You can also visit www.icf-cebe.com and www.tecinc.com.