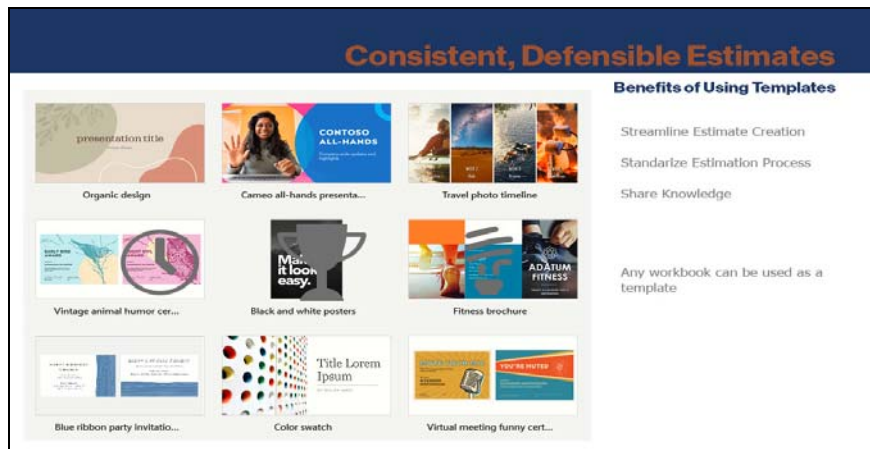


Slide 1 - Configuring SLIM-Estimate Templates

Welcome.

In this video you will learn the benefits of configuring SLIM-Estimate templates to your project type and development environment.

[Video available on the QSM Support Video Tutorials page.]

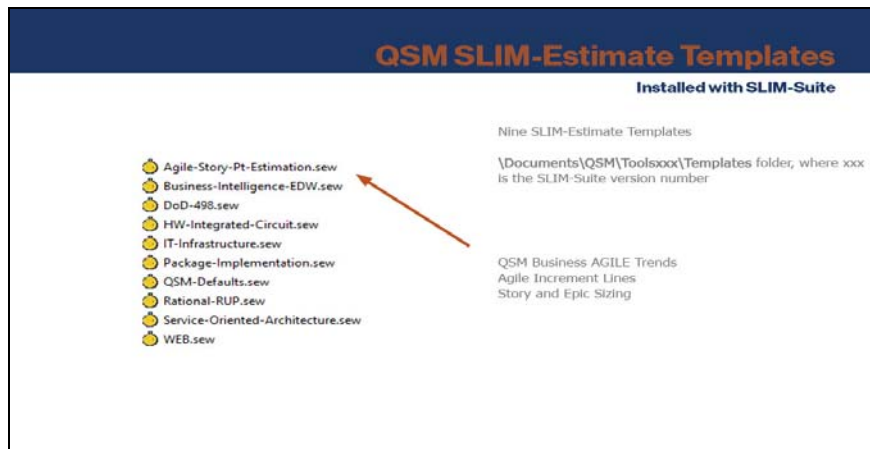


Slide 2 - Benefits of Using Templates

You have probably taken advantage of Microsoft 365 or other software templates - files you that save time and guide your thought process.

SLIM-Estimate templates help you streamline and standardize your estimation process. They make is easy to share knowledge and expertise. Most organizations maintain 3 or more templates to model different project types.

Templates are not special file types. Any SLIM-Estimate workbook can be used as template.



Slide 3 - SLIM-Estimate Templates

SLIM-Estimate ships with nine template files. Each includes a different combination of project characteristics. For example, the Agile-Story-Pt Estimation template uses the QSM Business Agile trends, is configured to display Agile iteration lines, and contains a Stories and Epics sizing method.

Templates can be found in your \Documents\QSM\Toolsxxx\Templates folder, where xxx is the SLIM-Suite version number.

Most SLIM users create new project estimates based on templates. Often, using SLIM out-of-the box templates with little to no customization will produce a good estimate that will get you in the ballpark and tell you what's possible.

Major Configuration Areas

Global Options

Project Environment

Work Breakdown Structure

Resources, Costs, and Skills

Sizing Methods

Load Historical Projects

Phase Tuning

Views & View Outline

Watch the entire video or use the Table of Contents to jump to the Major Configuration Area you want to learn more about

HELPFUL HINTS
The last section of the video provides some tips for getting started and a reminder that QSM is available to help you customize templates for your projects

Slide 5 - Configuration Areas

It is important to review template settings and modify them to reflect your develop practices and terminology and leverage sizing and other data you have available.

Taking just a few minutes to review these major configuration areas and modify them as needed will ensure SLIM models the type of work you do and how you do it.

Each configuration area is presented in this order. You can use the Table of Contents to jump to a specific area. Be sure to view Helpful Hints section for tips on getting started and a reminder that QSM is available to help you customize templates for your projects.

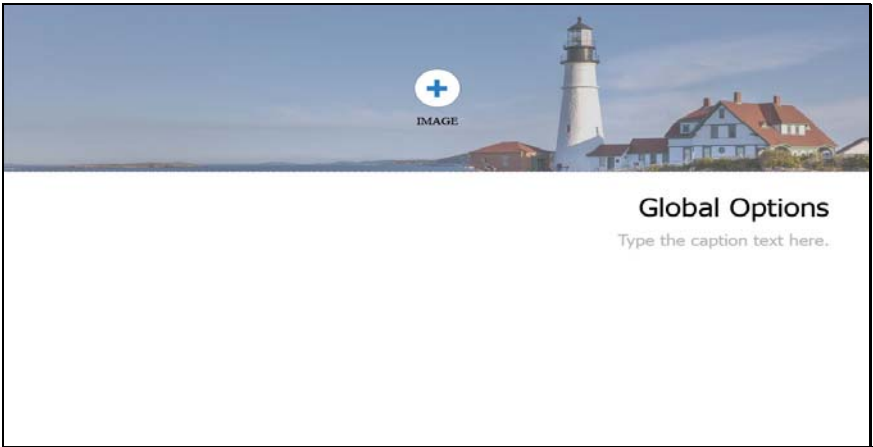


Slide 6 - SLIM-Estimate NetHelp

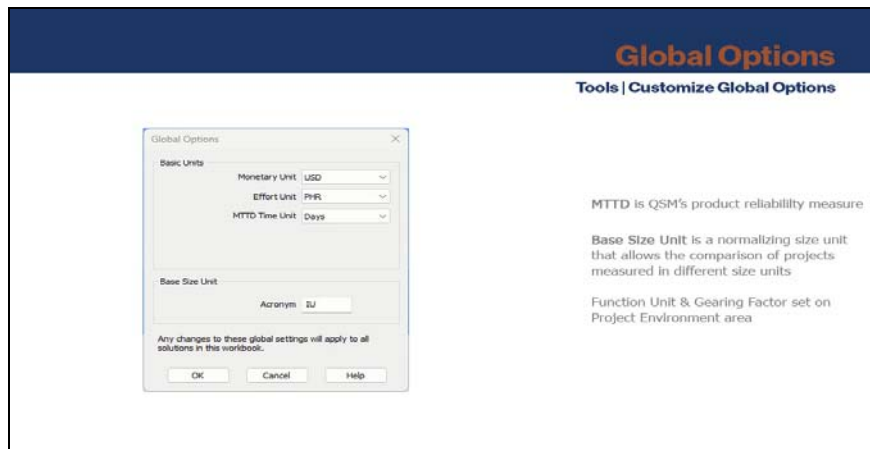
This video describes the purpose and application of each setting. Detailed instructions for modifying settings can be found in the two places:

- SLIM-Estimate Help Topics on the main menu and context sensitive help: Help buttons on screens will take you directly to the appropriate page
- SLIM-Estimate NetHelp is accessible using your browser

Both are organized by topic, index and fully searchable.



Slide 7 - Global Options



Slide 8 - Customize Global Options

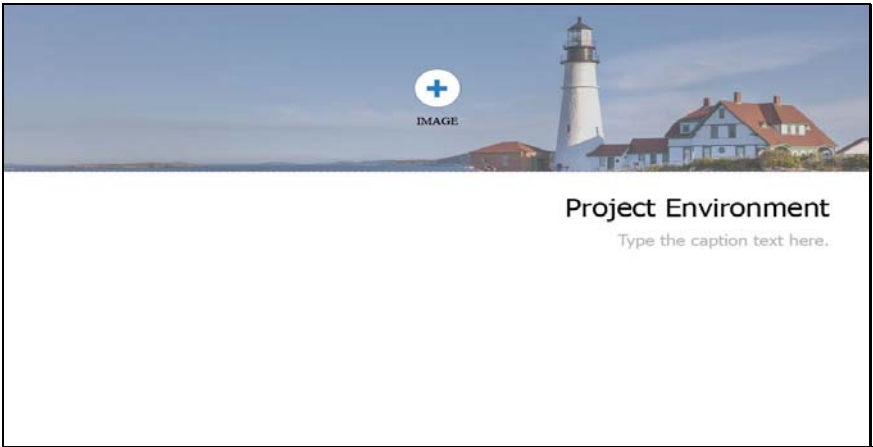
Just as you might think, Global Options are units of measure that will rarely change for a given project type or location.

Select your currency. The default is US Dollars.

How do you like to see Effort expressed. Person-Hours is common these days because project durations tend to be shorter.

MTTD is SLIM's product reliability measure, typically expressed in days for business applications. Software for medical devices or flight control systems will need a shorter time unit.

Set the label for the Base Size Unit – typically IU for Implementation Unit or SLOC for Source Lines of Code. The Base Size Unit measures the most elementary programming steps and provides a common denominator for comparing different project types and environments. Use the Function Unit and Gearing Factor in the Project Environment area to express size in other units.



Slide 9 - Project Environment

What is the Project Environment?

Tools | Customize Project Environment



SLIM's Project Environment area groups common project characteristics together

Describes the type of work or products you do and the way you do business

- Industry Sector
- Application Type
- Development Phases
- Defect Categories

.....

Slide 10 - Customize Project Environment

SLIM's Project Environment area groups common project characteristics together. Whereas each project produces a unique product of a given size, requiring associated commitments of effort, time, and staffing, the Project Environment describes the way you do business, including industry sector, application type, development phases, defect categories, and more.

Project Description

What Is the Project Type?

Summary
Descriptive information that does not affect estimate results

Product Construction
Function Unit and Gearing Factor used for size estimates

Trend Group
Used to sanity check estimates and to calculate default project parameters such as PI

Slide 11 - Project Description

The Project Description tab contains data about the project's benchmark trend group/data - used to tune estimates and supply missing estimation inputs and you're your preferred sizing unit.

The Summary project data is descriptive in nature and has no direct influence on the estimate. You may wish to enter the Organization name for the template.

Enter a Function Unit and Gearing Factor here if you always use a particular unit like Story Points. The estimate results on charts and reports will be expressed in this unit, which facilitates communication with other stakeholders.

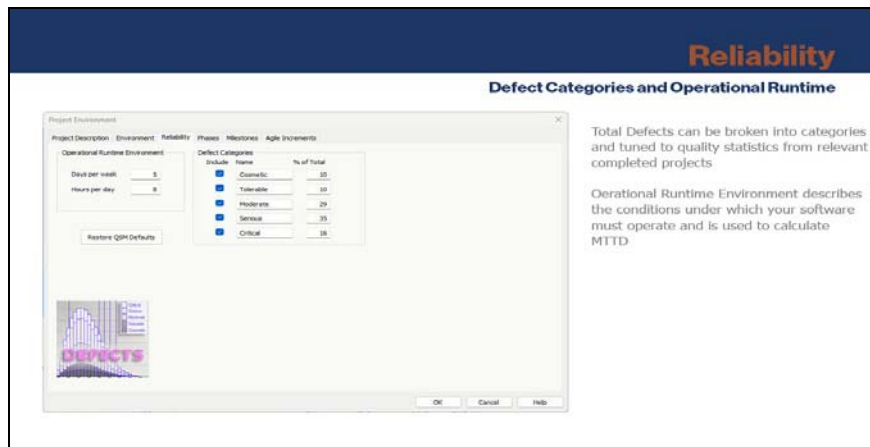
Setting the Function Unit to the Base Size Unit is a good idea because you can use multiple size units and gearing factors in the Size Calculator to capture the amount of work required to implement various sized features. See the Sizing Methods configuration are to learn more.

Selecting an appropriate Primary Trend Group is very important because it is the source of many solution assumptions and helps you sanity check your estimates. Trend groups tune estimates to match actual performance, consistent with industry or your completed project history. QSM Support can help you select the trend group that best fits your development environment.

The screenshot shows a software window titled "Project Environment" with a dark blue header bar. The header bar contains the word "Environment" in orange and "Development & Operations" in white. Below the header, the window has a tabbed interface with "Environment" selected. The "Environment" tab contains several input fields: "Division" (text), "Project" (text), "Country" (dropdown menu showing "United States"), "Predominant Development Machine" (text), "Type" (dropdown menu), "Specific" (text), "Predominant Operating System" (text), "Type" (dropdown menu), and "Specific" (text). To the right of these fields is a list box titled "Industry Sector" containing a scrollable list of industry categories: Unknown, Academic, Aerospace, Construction, Distribution, Military, Electronics, Engineering, Financial, Government, Leisure, Manufacturing, Health, Oil, Retail, Service, Transportation, System Integrators, and Other. To the right of the list box, there are two lines of text: "Does not affect estimate calculations" and "Supports benchmarking analysis". At the bottom right of the window are three buttons: "OK", "Cancel", and "Help".

Slide 12 - Environment

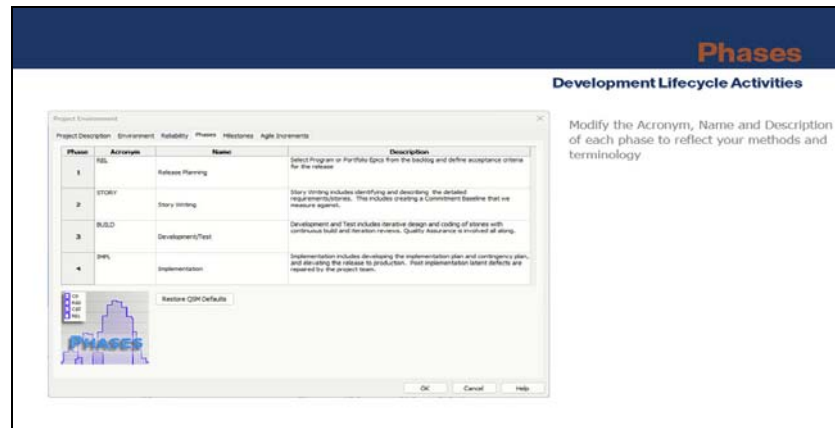
On the Environment tab, you can enter information about your development tools and industry sector. This information does not affect the estimate calculations but provides documentation to support benchmarking analysis and future estimates. It helps all stakeholders understand the project assumptions, and reasons for actual project performance.



Slide 13 - Reliability

SLIM's defect model calculates expected Total Defects based on the estimated size and effort. If more detail is required, Total Defects can be broken out into severity classes.

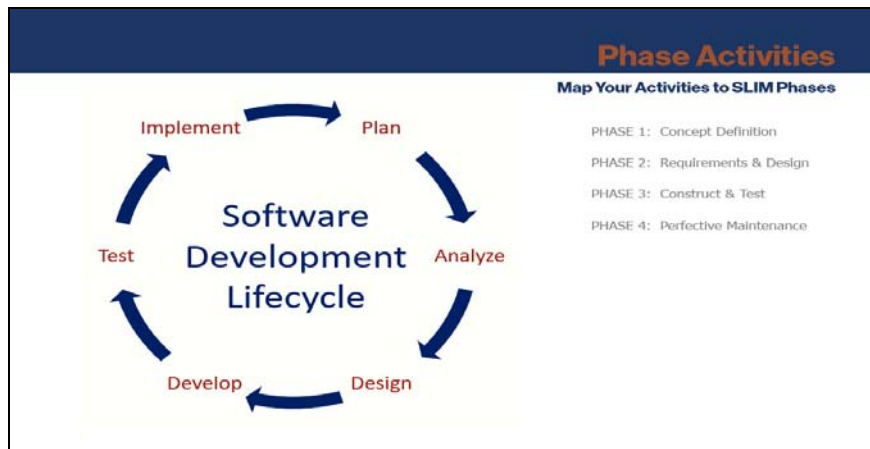
Though QSM provides default defect category names and percentages, defect category percentages are best determined from your historic data. Defect definitions and tracking procedures can vary widely from organization to organization. For example, you may only track three severity classes. Use defect data from your completed projects to calculate the percentages of total defects for each defect category.



Slide 14 - Phases

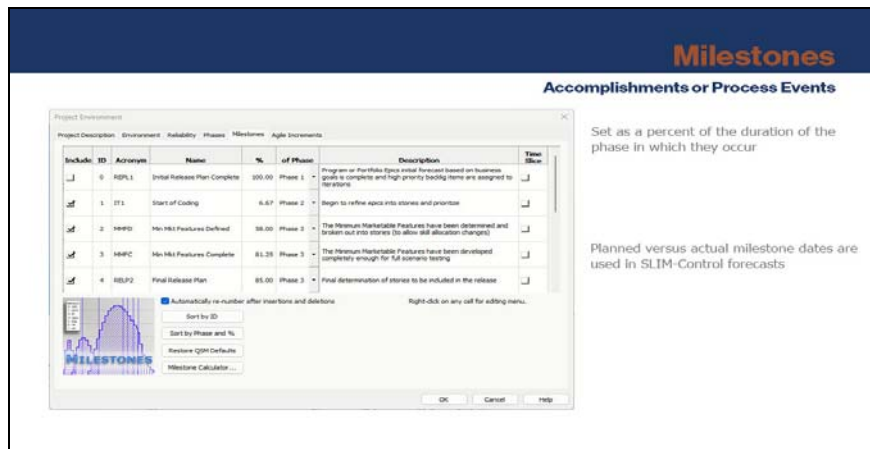
Lifecycle phases are simply groups of development activities common to all organizations. For example, Phase 3 includes detailed design, development and testing. The end of Phase 3 equates to product release to the customer.

Modify the Acronym, Name and Description of each phase to reflect your methods and terminology to facilitate communication with estimate stakeholders. This information appears on several charts and reports.



Slide 15 - Phase Activities

QSM will help you map your development activities to SLIM phases.
Determining which phases to include for a certain project type is covered in the Phase Tuning section.



Slide 16 - Milestones

Modify the milestone data to match typical project process gates (such as peer reviews) or completed deliverables (like design document or integration build). Milestones are attached to the phases in which they occur. Milestone data in SLIM-Estimate is used for creating charts and reports that are useful for documenting and sharing the project plan.

If you plan to use SLIM-Control to track your project, the milestone data is an important variable in forecasting. QSM finds comparing planned versus actual milestone dates to be a good prediction of project performance, particularly early in the life cycle.



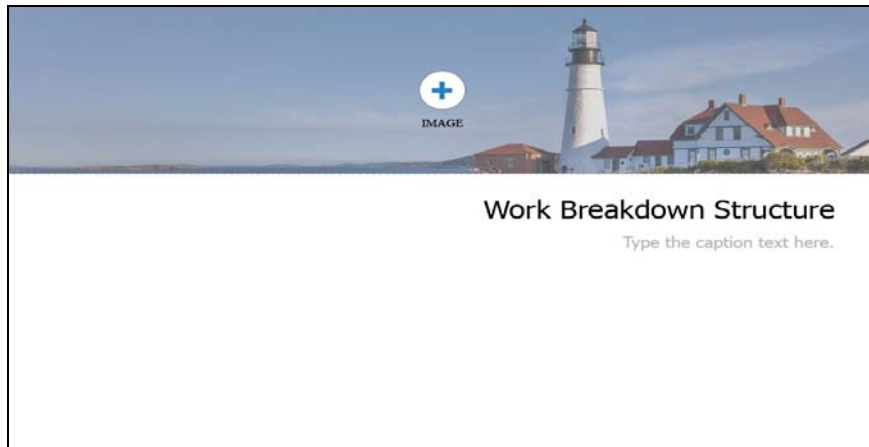
Slide 17 - Agile Increment Lines

Agile increment lines are an alternative schedule progress indicator to milestones. You can choose to display Level 1 increments (typically sprints), Level 2 increments (Program Increments or other event that occurs in cadence with Level 1 increments), or both.

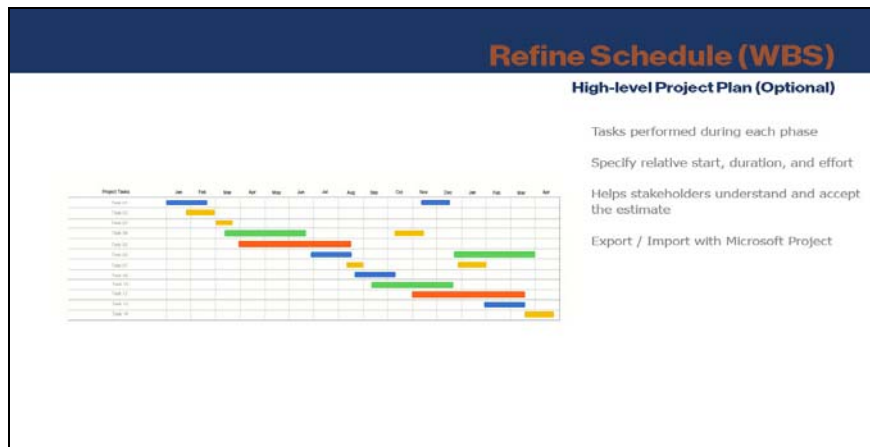


Slide 18 - Progress Indicators

Increment lines are only displayed on time series charts. A special button in the toolbar makes it easy to toggle between Agile increment lines or Milestone lines for all Time Series and Gantt in your workbook. Report versions of these charts provide metric data by your chosen progress indicator.



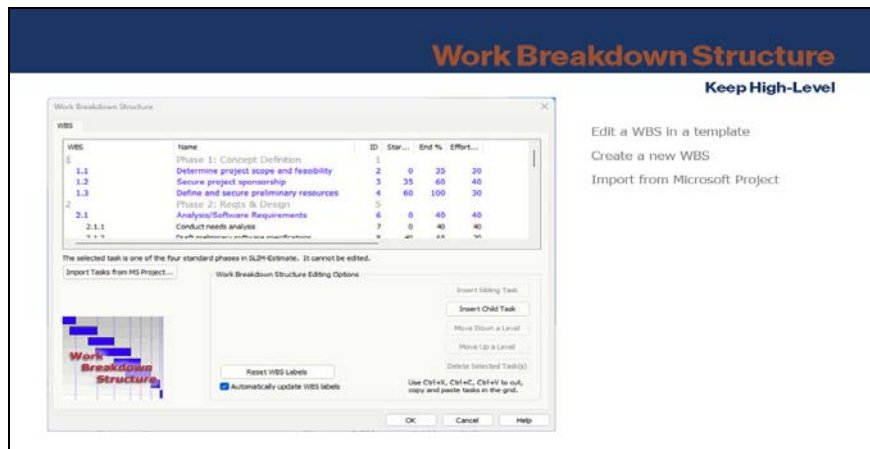
Slide 19 - Work Breakdown Structure



Slide 20 - Refine Schedule WBS

Configuring a Work Breakdown Structure (WBS) is optional. Defining one or more levels of detail shows the major activities performed within each phase, along with the relative sequence, effort, and duration for each task, provides a high-level plan that:

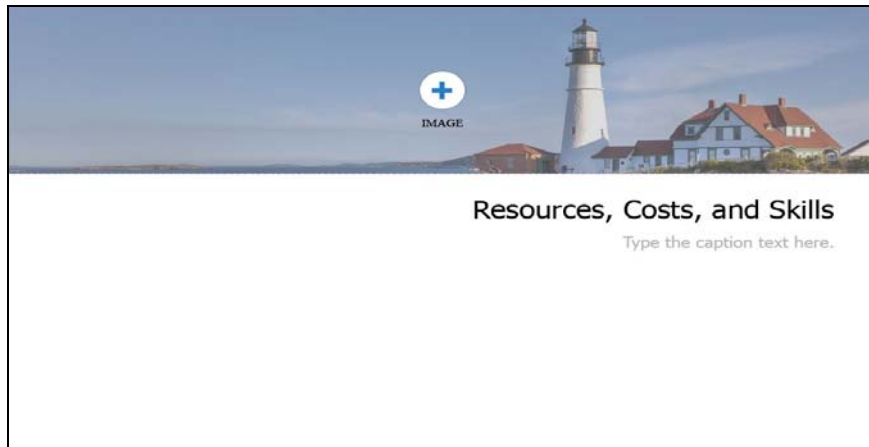
- Helps stakeholders understand and accept the estimate because familiar terms are used
- Provides data on projected task effort and time to support the solution comparison process or detailed project planning
- Builds a plan that can be exported to MS Project.



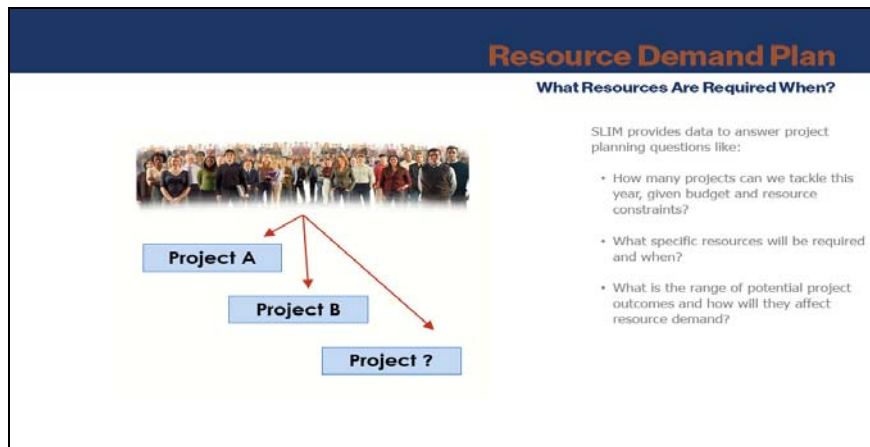
Slide 21 - Customize WBS

Configure your WBS by editing one from an existing template, build a new structure by inserting parent and child tasks for each phase, or import tasks from MS Project.

We recommend you keep the structure high-level to support the estimation process. Details can be added using a planning tool.



Slide 22 - Resources Costs Skills



Slide 23 - Resource Demand Plan

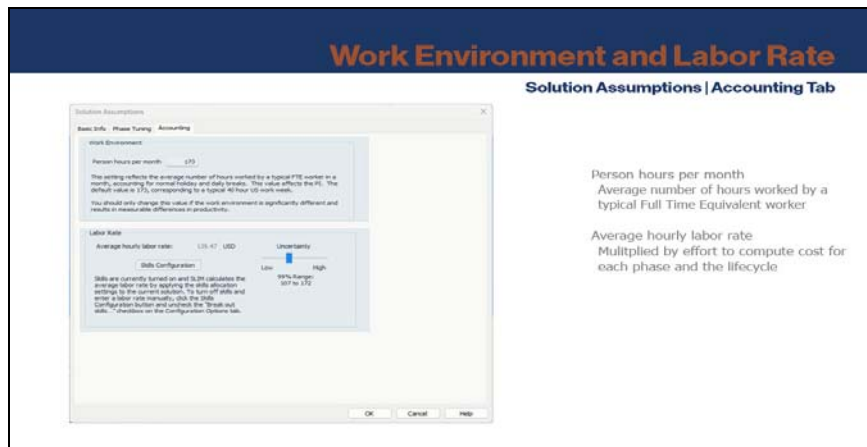
SLIM provides data to answer project planning questions like:

How many projects can we tackle this year, given budget and resource constraints?

What specific resources will be required and when?

What is the range of potential project outcomes and how will they affect resource demand?

SLIM-Estimate can produce high-level/summary cost estimates (project LR * Effort) or detailed cost estimates that reflect the skills mix and associated avg LR for each resource type.



Slide 24 - Accounting

Accounting settings provide two important variables:

- Person hours per month – the average number of hours worked by a typical Full Time Equivalent worker in a month; determines the average staff per month displayed on time series charts
- Average hourly labor rate – multiplied by effort to compute cost for each phase and the lifecycle

These settings on the Solution Assumptions screen because they are values you may want to vary for different estimate scenarios.

The labor rate can be entered directly or computed based on the template's Skills Allocation settings when enabled.

Skills Breakout



Define the typical resource mix for various project types

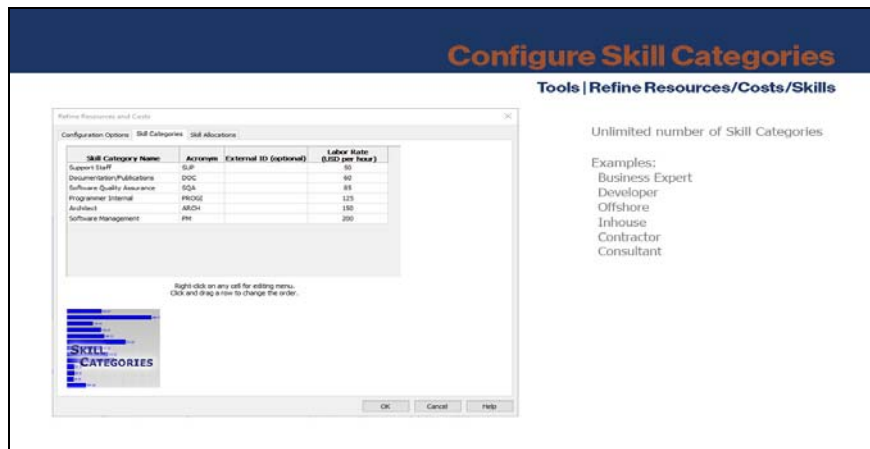
Effort for each resources computed based on when they are needed

Resource demand plan for FTEs, Effort, and Cost

Slide 25 - Skills Breakout

Different projects require different skill sets. Skills Allocation lets you define the typical resource mix for various project types.

The effort required for each resource type is computed based upon when those resources are needed throughout the life cycle to produce a resource demand plan for staffing (FTE), Effort, and Cost.



Slide 26 - Skill Categories

Select Tools | Refine Resources/Costs/Skill to customize your skill categories, like Business Expert or Developer and labor rate for each category.

Configure Skills Allocation

Breakout by Phase and Time Slice

Allocate effort based on a percent of available monthly resources or a fixed FTE staff value

Configure Resources and Costs

Configuration Options

Skill Categories

Skill Allocations

Skill Category	Phase 1			Phase 2			Phase 3			Phase 4		
	1	2	3	4	5	6	7	8	9	10	11	
Research Staff	10	10	10	10	10	10	10	10	10	10	10	
Documentation/Publications	10	10	10	10	10	10	10	10	10	10	10	
Software Quality Assurance	10	10	10	10	10	10	10	10	10	10	10	
Programmer - Internal	10	10	10	10	10	10	10	10	10	10	10	
Architect	100	10	10	10	10	10	10	10	10	10	10	
Software Management	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Right-click any cell for editing menu.

Sum of percentages in column 1 is 100

SKILL CATEGORIES

☐ Base effort/staffing breakout on a % of available monthly resources.

☐ Base effort/staffing breakout on a fixed FTE staff value (subject to fixed resource max).

Notes for using the grid

- * Click gray cells to toggle between fixed FTE staff and percentage of monthly effort.
- * Hover over Time Slice ID to see skill allocation breakpoints.
- * Hover over columns to see column percentage and fixed resource totals.

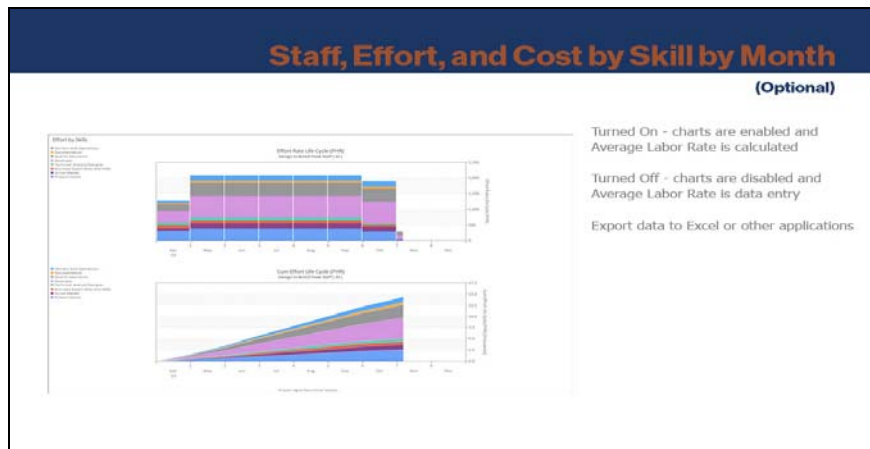
OK

Cancel

Help

Slide 27 - Skills Allocation

Then allocate effort to each skill for each phase or optional time slice.

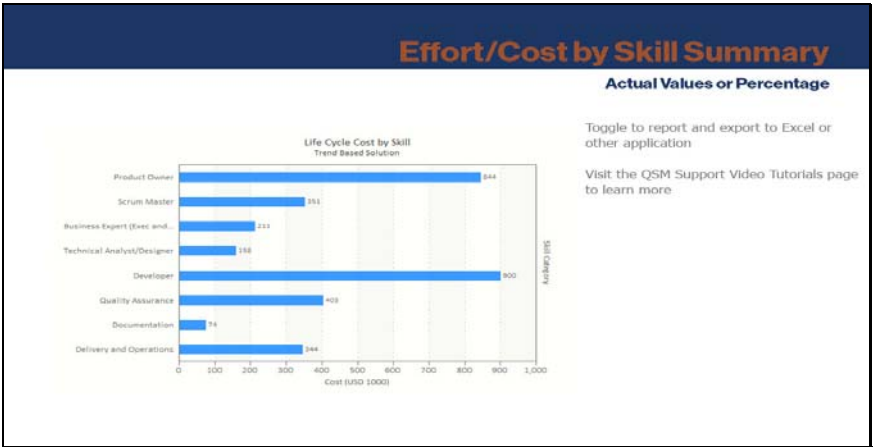


Slide 28 - Skill by Month

This feature can be turned on or off.

When it is on, charts and reports are available to view skills breakout by role by month ... and the Average Labor rate is computed, as opposed to data entry when skills allocation is turned off.

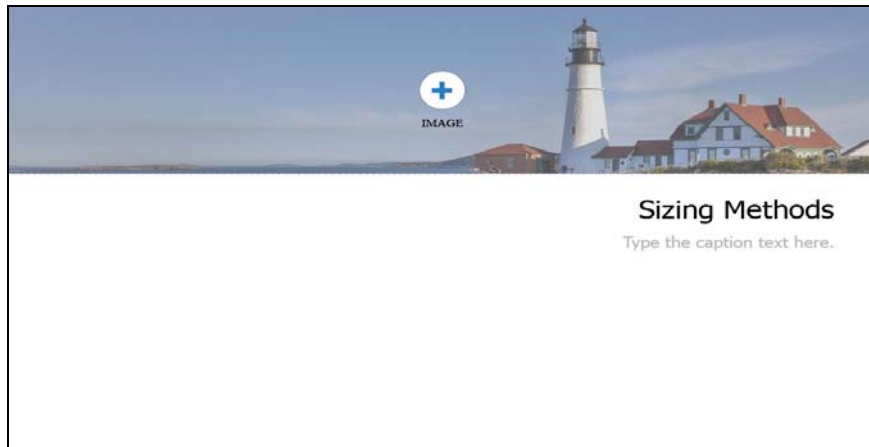
Export skills reports to Excel to share with other applications.



Slide 29 - Skill Summary

You can also view effort and cost by skill totals for the whole project.

Video tutorials on skills allocation are accessible on the QSM Support Video Tutorials web page.



Slide 30 - Sizing Methods

Ignoring Size Leads to Bad Estimates

Software Size is a Measure of Scope

SOFTWARE SIZE MATTERS

Size is one of the 5 core metrics behind software estimation - what are the other four?

- SCOPE (DURATION)
- EFFORT (COST)
- QUALITY (DEFECTS)
- PRODUCTIVITY
- SIZE (SIZE)

WHY DO WE CARE ABOUT SOFTWARE SIZE?

Ignorance of size leads to bad estimates.

Without software size, it's hard to estimate:

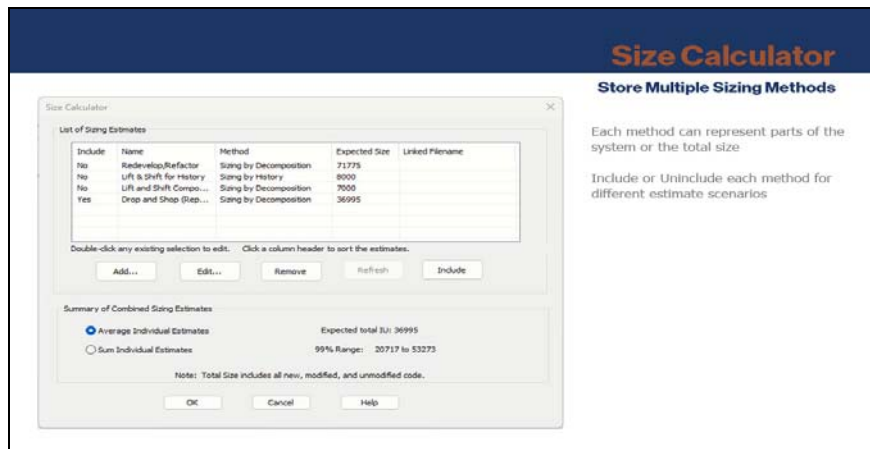
- How long a software project will take
- How much it will cost
- How many people we'll need
- How many defects we can expect to find during testing
- How productive we are likely to be

NOTE: Because there's a non-linear relationship between size and schedule, effort (cost), and defects.

There is a nonlinear relationship between size and schedule, effort (cost), and defects

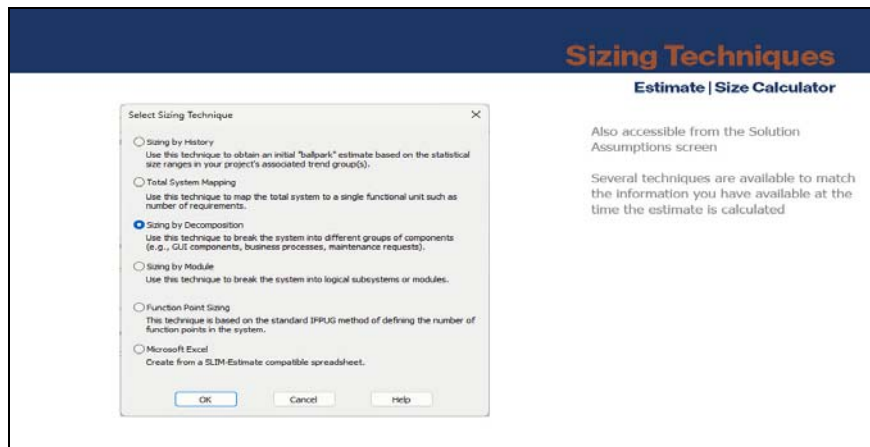
Slide 31 - Size Matters

Size matters because software size is a measure of project scope - the amount of work that must be done, and it determines the values of the other core metrics.



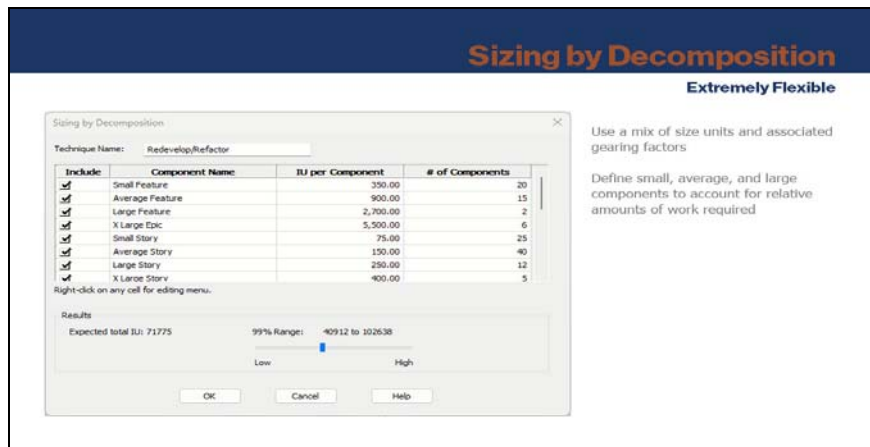
Slide 32 - Size Calculator

SLIM-Estimate's Size Calculator lets you define and store multiple sizing methods that can be included or excluded for each solution. Use different sizing techniques for various parts of the system and sum them to create the total estimated size or use each to estimate the total size and average them together.



Slide 33 - Sizing Techniques

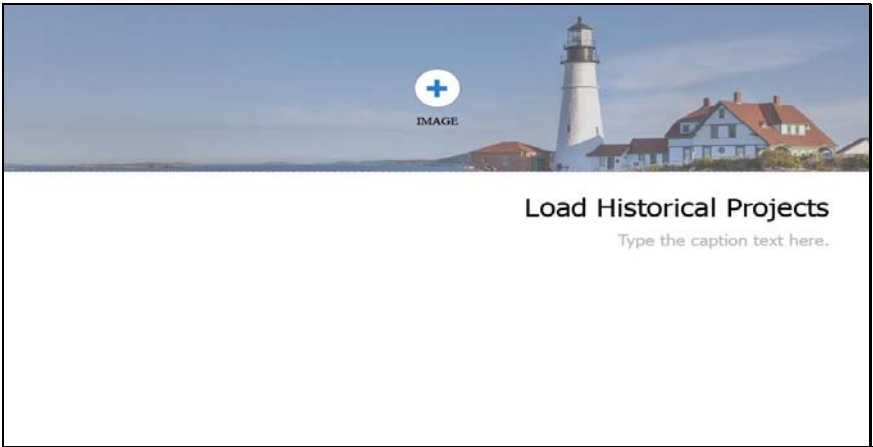
Select Estimate | Size Calculator or access the Size Calculator from the Solution Assumptions screen. Several techniques are available to match the information you have at the time the estimate is calculated – from t-shirt sizing to customizable, detailed Excel spreadsheets.



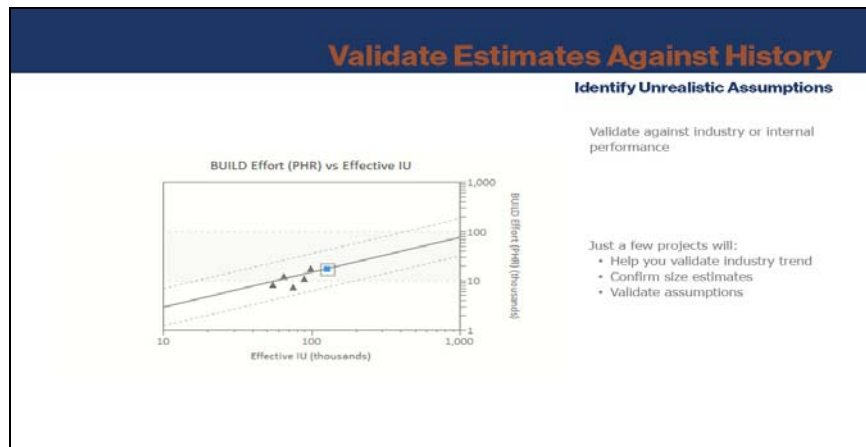
Slide 34 - Sizing by Decomposition

The most common method is Sizing by Decomposition because it is extremely flexible, allowing you to use a mix of sizing units and associated gearing or conversion factors.

Not all requirements, features, or stories are equal. Defining Small, Average, and Large components with different gearing factors lets you account for the relative amount of work required and provide a more accurate size estimate.



Slide 36 - Load Historical Projects



Slide 37 - Validate Against History

Validating estimates against industry trends is a good practice. Validating estimates against industry or internal performance trends makes it easy to spot unrealistic performance or schedule assumptions and ensure that project plans and deadlines are achievable.

Validating estimates against your own history is a even better! Just a few projects will help you validate your industry trend selection, confirm size estimates based on the range of sizes of similar projects, and validate your assumptions of effort, staffing, duration, PI and defects.

Load Historical Projects

History | Load Historical Projects

Import selected projects from SLIM-DataManager

Contains size, schedule, and effort data from one or more relevant completed projects

SLIM-Estimate users do not need SLIM-DataManager

Load Historical Projects

Step 1: Identify Source of Historical Projects

Browse... C:\Users\Saura\OneDrive - QSM, Inc\Training\Training-103\TRAINING\medical records dbase.amp

Step 2: Load or Reload Projects

Load/Reload Projects

Step 3: Toggle Individual Projects On/Off

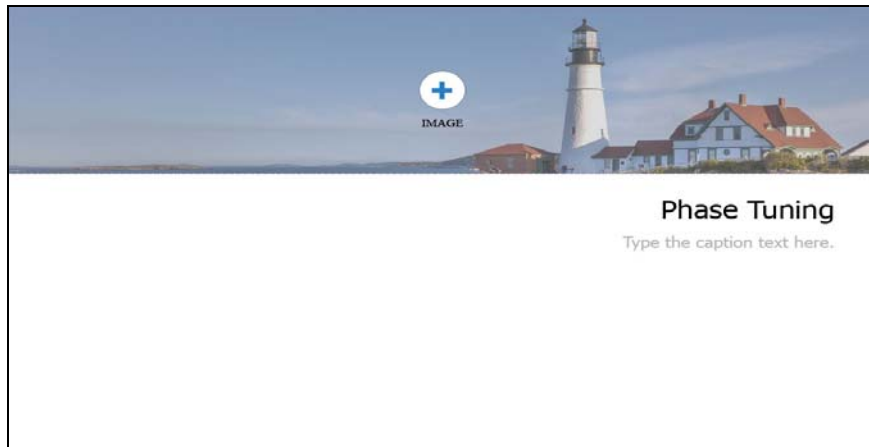
#	Name	Organization	Application	POC Year
1	Patient Portal, Phase 1	ABCO Systems, Inc.	Business	2014
2	ConstantCare	ABCO Systems, Inc.	Business	2017
3	Agile - eMed Portal	ABCO Systems, Inc.	Business	2017
4	FastFile Patient Care	ABCO Systems, Inc.	Business	2016
5	Agile - CloudCare IT	ABCO Systems, Inc.	Business	2016

Note: Selected projects will be displayed on all charts that display "historical data" and will be available for the calculation of historical tuning factors.

OK Cancel Help

Slide 38 - Load History

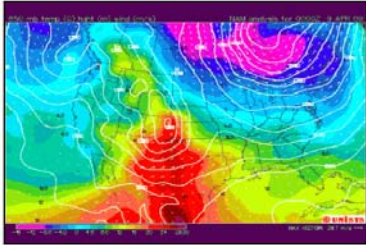
Select History | Load Historical Projects from the main menu and browse to the SLIM-DataManager workbook that contains your completed project data. Select only those projects that are like the type of project the template represents.



Slide 39 - Phase Tuning

Defining the Lifecycle Model

SLIM Models Your Development Environment



Computer Simulation is the usage of a computer for the imitation of a real-world process or system.

- Development phases to be performed
- Relative amount of time and effort
- Degree of overlap

NWP model forecast of temperatures and winds at 5000 ft. From NOAA and weather.unisys.com

Slide 40 - Defining Lifecycle Model

A computer simulation is the usage of a computer for the imitation of a real-world process or system. SLIM-Estimate models your development environment similar to the way software simulates weather patterns or oil and gas production.

To do a good job it needs to know the development phases typically performed for a particular project, the relative amount of time and effort spent in each, and the degree to which phases overlap or are performed simultaneously. These settings define the software lifecycle model.

Phases Included & Phase Shapes
Activities Typically Performed During a Project

Solution Assumptions
Basic Info Phase Tuning Accounting

Phases
Project Start Date: 1/1/2023

☐ CD
☒ RSD
☐ C&T
☐ P_Mnt

Rayleigh Front Load
Rayleigh Front Load
Rayleigh Med Front Load
Exponential

Select a phase shape that best depicts the rate of staff build-up for that phase

Will the Peak Staff level be reached early, in the middle, or later in the project, or is it Level Load?

Slide 41 - Phases Included

Phase data used in calculations is found on the Solution Assumptions screen (Basic Info and Phase Tuning tabs) because it can be changed to compute different estimate scenarios. The choice of phases included lets you define which activities are in scope, like including Phase 4 to achieve high quality targets.

On the Basic Info tab, check the phases you want to include and select a phase shape that best depicts the rate of staff build-up for that phase. Will the peak staffing level be reached early, in the middle, or late in the project, or is level-loaded? Saving these settings in a template promotes a consistent estimation process and gives estimators less to think about.



Slide 42 - Phase Tuning Tab

The Phase Tuning tab contains duration, effort and phase overlap settings for each phase included. Phases 1, 2, and 4 values are specified relative to Phase 3 – where the Software Product Equation is used.

Setting duration and effort options to Ratio is best because the relative time and effort will scale with your size estimate. However, you can set fixed values, such as one month duration for Requirements & Design.

Phase overlap values determine the start date for phases other than the first included.

History Tuning

Best Source of Phase Tuning Data

Not a configuration setting that can be saved in a template

Available via Tuning Factor History button on the Phase Tuning tab or by selecting History | History Tuning from the main menu

Historical Tuning Factors

Selected Projects (C:\Users\laura\OneDrive - QSM, Inc\Training\training-103705RA2NDG\medical records dbase.msp)

#	Name	Organization	Application	POC Year	PI	MBE
1	Patient Portal, Pha...	ABCO Systems, Inc.	Business	2014	19.9	3.9
2	ConciergeCare	ABCO Systems, Inc.	Business	2017	18.7	4.6
3	Agile - Patient Portal	ABCO Systems, Inc.	Business	2017	19.5	3.2
4	Facility Patient Care	ABCO Systems, Inc.	Business	2016	17.5	3.0
5	Agile - CloudCare PT	ABCO Systems, Inc.	Business	2016	17.2	3.2

Click on the project in the list above to select/unselect projects to be included for historical tuning

Summary Statistics of Selected Projects

Phase 1 Tuning Factors

☐ Duration N/A

☐ Effort N/A

☐ Overlap N/A

Phase 2 Tuning Factors

☒ Duration 91 %

☒ Effort 23 %

☐ Overlap N/A

Phase 3 Tuning Factors

☒ PI 18.4

☐ MBE 3.2

☒ Defect 175 %

☒ Overlap 94 %

Phase 4 Tuning Factors

☐ Duration N/A

☐ Effort N/A

☐ Overlap N/A

Check the tuning factors which you want to automatically update in your solution properties.

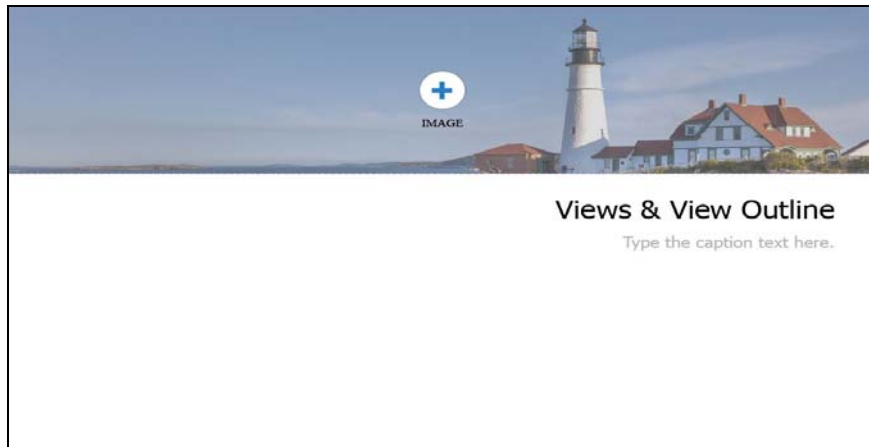
OK - Update selected tuning factors

Cancel

Help

Slide 43 - History Tuning

The best source of phase tuning data is, of course, from history. This is not a configuration setting that can be saved in a template. However, if you have loaded historical projects into your template, the Historical Tuning Factors option displays the average Phase tuning data for projects selected from the list. Simply check the factors you want to include for a particular estimate scenario.



Slide 44 - Views and View Outline



Slide 45 - View Navigator

SLIM-Estimate files contain a set of views - customizable groups of charts and reports to support estimate analysis and presentation - organized in folders, known as sections.

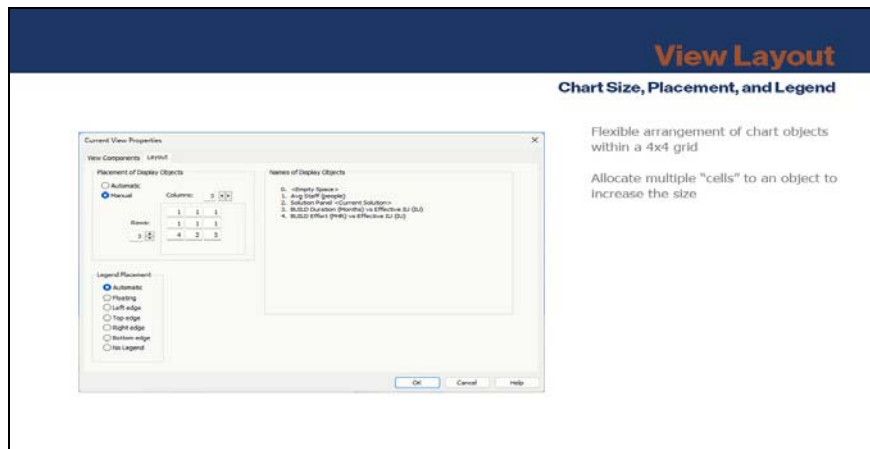
The default view outline may suit your needs, but we recommend customizing them to ensure stakeholders understand the information presented.

You can add an unlimited number of sections and views.



Slide 46 - View Components

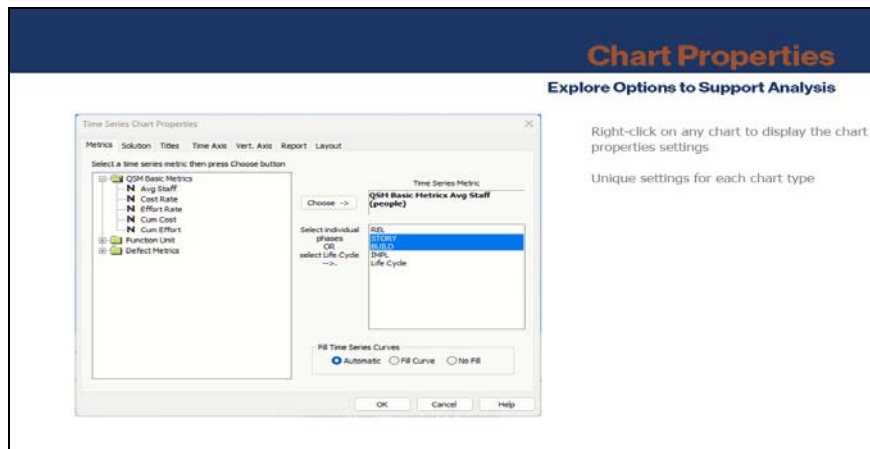
Use the View Layout tab to arrange the display objects on the screen. Because you can display 16 objects, a 4 x 4 grid is used to specify the order and relative size of each. In this example, the Average Staff chart occupies the entire space for the first two rows, making it the most prominent image, augmented by 3 smaller objects.



Slide 47 - View Layout

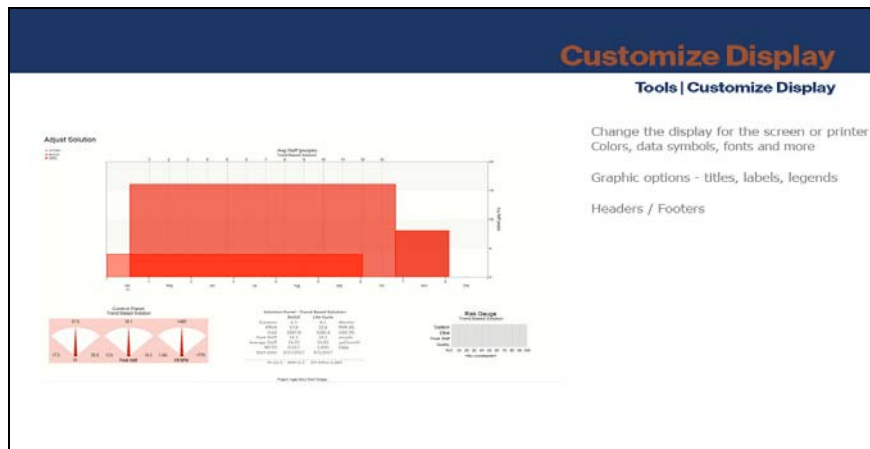
Use the View Layout tab to arrange the display objects on the screen. Because you can display 16 objects, a 4 x4 grid is used to specify the order and relative size of each.

In this example, the Average Staff chart occupies the entire space for the first two rows, making it the most prominent image, augmented by 3 smaller objects.



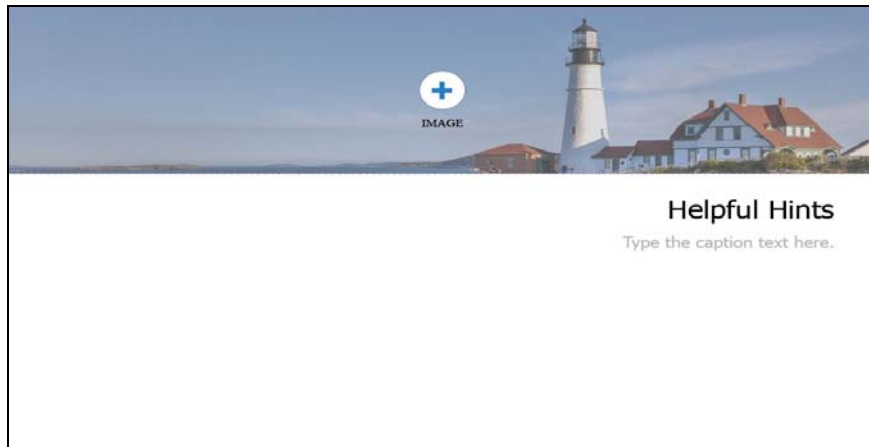
Slide 48 - Chart Properties

Right-clicking on any chart will display the chart properties setting. Review existing charts to see what's possible – each chart type is different.

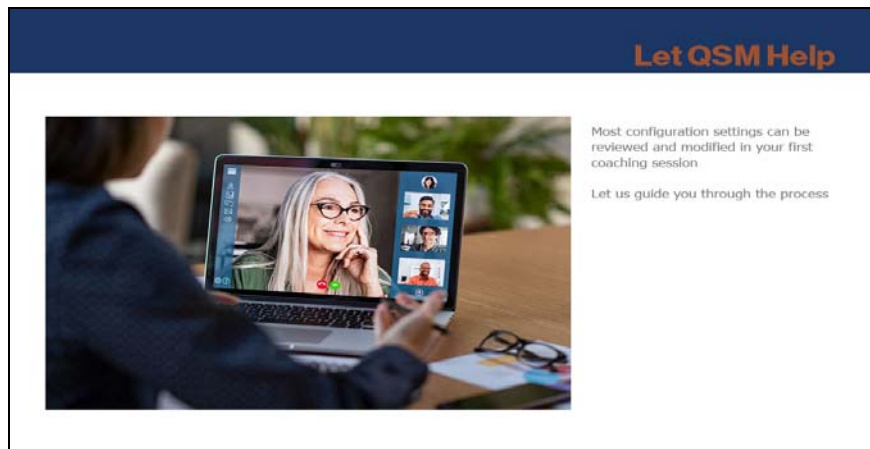


Slide 49 - Customize Display

Select Tools | Customize Display to access options to change colors, data symbols, fonts and more.



Slide 50 - Helpful Hints



Slide 51 - Let QSM Help

This looks like a lot of work, but it really isn't. Most configuration settings can be reviewed and modified in your first coaching session. Loading history and building sizing methods will take longer because you will need to gather some data. Templates will probably evolve over time to keep pace with your analysis requirements and processes.

Let us guide you through the process and lend QSM expertise.

Settings Used in Estimate Calculations

Important Settings to Review

MUST HAVE

- Primary Trend Group
- Phases Included, Phase Shape, Phase Tuning
- Sizing Methods*

NICE TO HAVE

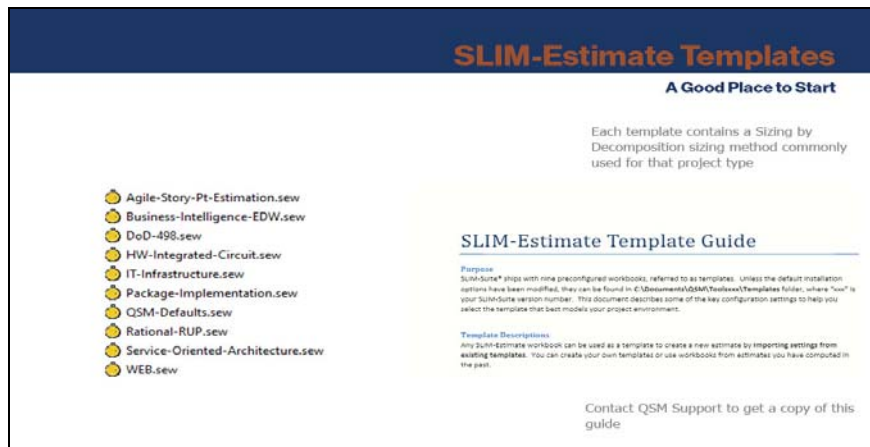
- Historical Projects
- Skills Allocation
- Defect Categories

* Not critical to calculating your first few estimates but for configuring templates that promote estimation best practices

Slide 52 - Settings Used In Estimate Calculations

Start with the settings that affect estimate results. The primary trend group, lifecycle model settings and sizing methods. Sizing methods are not critical to calculating your first few estimates, but for configuring templates that promote estimation best practices across your organization they are important.

Gathering historical data will take some time. You will be surprised how much value you can get from just a handful of projects. Tuning to history is the best way to configure the lifecycle settings. If you can't get history, QSM can help you replay a completed project in SLIM-Estimate. Continue to add to your completed project database as projects complete.



Slide 53 - SE Templates

No need to reinvent the wheel! Select one of the templates installed with SLIM-Suite. You may want to change very little. Each template contains a Sizing by Decomposition sizing method with components and gearing factors commonly used for that project type.

The SLIM-Estimate Template Guide describes the main settings in each template.

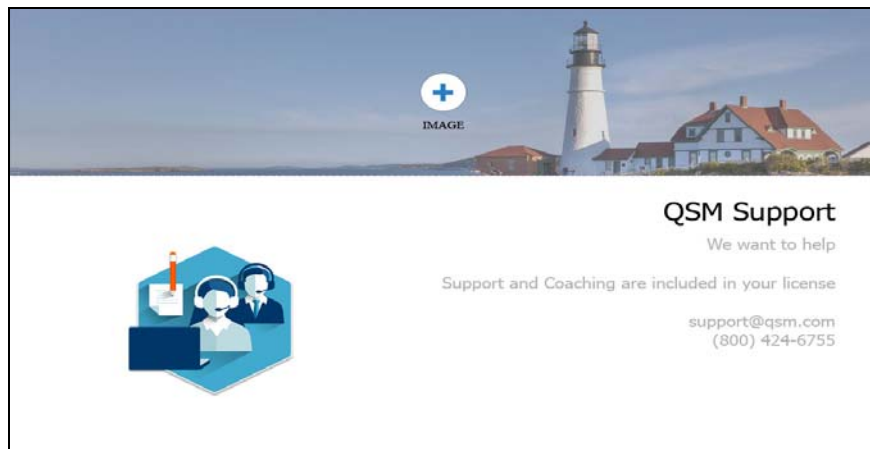


Slide 54 - Project vs Solution

SLIM-Estimate is used to estimate a project or product release. Multiple estimate solutions can be computed and logged to model various What-if Scenarios

Global, Project Environment, and Skills Allocation settings contribute to ALL estimate solutions.

Settings on the Solution Assumptions screen only affect individual solutions.



Slide 55 - QSM Support

We want to help. Support and coaching are included with your license. Contact QSM Support today. Thank you.