



Software Productivity Research, LLC, (SPR) is a leading international consulting firm that specializes in the area of software productivity and quality through functional analysis-based metrics. Our vision for software metrics and measurement is best summarized by our founder, Capers Jones, in his landmark book *Applied Software Measurement*.

“... the need for accurate measurements of software productivity and quality is directly related to the overall economic importance of software to industry, business, and government. That means that measurement is now a mainstream software activity, and it is one that is on the critical path to corporate and national success.”

In addition providing clients with consulting services covering a broad range of business needs, SPR markets KnowledgePLAN®, an award-winning parametric tool software project estimation and assessment tool.

SPR KnowledgePLAN® Version 4.2

A Parametric Model for Accurate Project Estimation

SPR KnowledgePLAN® is a highly flexible (parameter-driven, configurable), function point-driven analytical model that incorporates a historical knowledge base of project data. The model uses a base of functional metrics to derive predictive/analytical productivity rates given a large number of known (or assumed) parameters.

The knowledge base contained in the product is derived from over 11,000 software projects that have been collected and researched by SPR. This collection of data represents a foundation of estimation history which can be used for benchmarking and driving subsequent estimates.

KnowledgePLAN imports from and exports project plans directly to Microsoft Project (and other project management software.) Project staff can choose from a variety of industry standard methodologies to automatically create a project plan using the estimator. In addition, there is a direct, menu-driven interface between Charismatek Function Point Workbench and KnowledgePLAN.

Key Features

Historical project data (the knowledge base) that operates as an estimation “engine”.

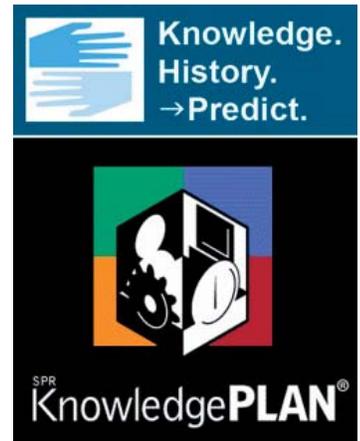
Benchmarks and knowledge base-driven estimates are derived from **correlation with functional metrics**, rather than SLOC or physical metrics.

Seamless integration with Microsoft Project and compatible project management tools. KnowledgePLAN creates a detailed (phase/activity/task) work breakdown structure and completely editable/configurable project plan.

Comprehensive and flexible **questionnaire-based scoring** of over 100 attributes.

Ability to store created methodologies, scoring templates and customizable knowledge bases in a back-end database for **sharing across the network**.

Estimates are made at the detailed level of your organization’s work breakdown structure – in addition to summary estimates by phase. Users can **import customized life cycle methodologies**, map them to our knowledge base, and estimate at the level of individual line items, if desired.



	KBase	Plan	Actual
Start Date:		8/1/2003	
End Date:		1/28/2005	
FTE:	6.74	5.91	
Work:	2,633d	2,310d	0d
Cost:		\$1,002,898	\$0
Defect Removal %:	64%	64%	0%

Case Integration	Score	Weight
Send formal design with some test/graphics support	2.50	4%
PERFORMANCE requirements	4.50	1%
Developer TOOL AND METHOD experience	1.00	4%
REQUIREMENTS methods	1.50	1%

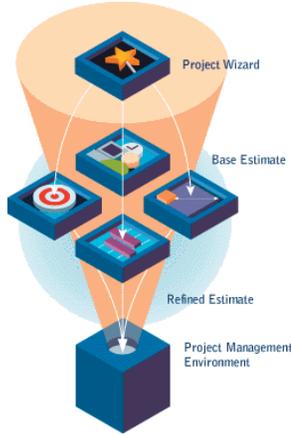
Item	Estimate	Plan	Plan	Plan	Plan	Plan	Plan	Plan	Plan
	Duration	FTE	Plan	Plan	Plan	Plan	Plan	Plan	Plan
00-000 Project Total	808.00d	5.24	\$1,002,898	\$1,002,898	0.00%	0%			
00-000 Requirements	126.00d	1.28	\$42,800	\$42,800	0.00%	0%			
00-000 Design	307.50d	1.98	\$372,750	\$64,400	30.00%	0%			
00-000 Development	357.00d	2.78	\$1,036,000	\$31,116	2.90%	0%			
00-000 Testing	99.75d	1.00	\$99,750	\$0	0.00%	0%			
00-000 Maintenance	20.00d	0.00	\$0	\$0	0.00%	0%			
00-000 Project Total	420.25d	1.14	\$114,000	\$114,000	100.00%	0%			
00-000 Requirements	441.00d	0.78	\$99,000	\$17,252	15.00%	0%			
00-000 Design	81.00d	1.20	\$110,000	\$45,000	40.00%	0%			
00-000 Development	6.75d	1.28	\$1,000,000	\$0	0.00%	0%			
00-000 Testing	63.75d	1.00	\$63,750	\$0	0.00%	0%			
00-000 Maintenance	0.75d	0.00	\$0	\$0	0.00%	0%			

SPR KnowledgePLAN®

Powerful Knowledge-Based Estimation Made Easy

Ease of Use

SPR KnowledgePLAN is a tool that quickly guides the user through the development of an initial software project estimate and then supports the refinement or “what if” process to increase estimation accuracy



Powerful Knowledge Bases

KnowledgePLAN comes with a standard knowledge base containing data from over 11,000 projects from all major software environments. Users can apply this historical experience to their unique development environment or use the Knowledge Base Creation module to calibrate a personalized set of benchmark data. In addition, users can “plug-in” specialized knowledge bases from data collected by the International Software Benchmarking Standards Group (ISBSG).

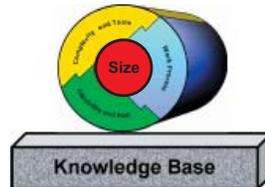
Integrates estimation and planning

KnowledgePLAN combines knowledge-based estimation and scheduling functionality. Users can readily export to and import project data from Microsoft Project and other software project management tools. In addition, reports and output tables can be easily exported for analysis and extended reporting.

The KnowledgePLAN model

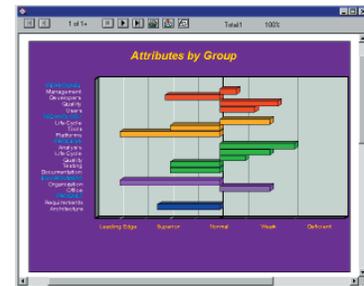
KnowledgePLAN is a parametric model with a knowledge base of historical, actual project data as its source for information. This cylinder diagram shows the primary inputs to the model:

- Size (key scaling factor)
- Complexity and tools
- Capability and risk
- Work processes



Model Outputs

- Deliverable Size
- Assignment Scope
- Production Rate
- Resources
- Predecessors
- Work
- Cost
- Duration
- Defects



Plug-in Knowledge

When used in default mode, an SPR-supplied template and the latest SPR-supplied knowledge base provides standard, industry typical responses to the parameters. When a user-constructed customized template is employed, parameter values are stored in the subsequent estimate. In this way, patterns of parameters seen in one estimate can be reused in a consistent way across multiple projects.

Users can also create customized knowledge bases with data aggregated from their own organization's projects. These can be “plugged in” to replace the standard SPR knowledge bases.



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Software Productivity Research supplies effective solutions for professional software engineering management to organizations around the world. Our mission is to provide our clients with the means to measure and improve performance of vital software engineering processes.