



# CHARISMATEK Software Metrics

## ESP – Estimate Software Projects



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- CHARISMATEK's **ESP – Estimate Software Projects** is a simple software utility used to calculate likely software delivery productivity rates, effort and cost for use in early life cycle estimation.
- **ESP** comes seeded with standard industry benchmark data.
- In addition, **ESP** can be individually customised and calibrated to your organisation's software delivery environment to ensure that your project estimates are consistent, repeatable and achievable.



## CHARISMATEK ESP – Estimate Software Projects

- To use **ESP** to generate project productivity rate, effort and cost estimates:
  - ◆ The user enters a small number of parameters describing the current project.
  - ◆ **ESP** then generates productivity rate, effort and cost estimates reflecting those parameters and its underlying data.
  - ◆ Estimates are presented as a range incorporating 'Best Case', 'Most Likely Case' and 'Worst Case' values.
  - ◆ Entered parameters and estimates can be output to HTML, CSV and XML for reporting and to be retained.



## ESP - Estimate Software Projects

Use ESP to quickly and easily calculate estimates of likely software project delivery rates, effort and cost.

The calculated project delivery rates and their descriptions can also be pasted into the [Function Point WORKBENCH™](#) as Productivity Sinks for use with the Effort and Cost Estimation Reports.



1. Project Identification:	Spatial Geo-Assets System (SGAS) Update 5.4					
2. Project Classification:	Enhancement - Modern Environment (IDE) ▼					
3. Included Project Phases:	<input type="checkbox"/> Planning <input checked="" type="checkbox"/> Requirements Analysis <input checked="" type="checkbox"/> Design <input checked="" type="checkbox"/> Construction and Unit Testing <input checked="" type="checkbox"/> System and Acceptance Testing <input type="checkbox"/> User Documentation <input checked="" type="checkbox"/> All Selected Phases - Project Management					
4. Project Size:	768 IFPUG Function Points					
5. Completed Project Phase when Function Point Analysis was performed:	<input type="radio"/> Prior to Requirements Analysis <input checked="" type="radio"/> After Requirements Analysis <input type="radio"/> After Design <input type="radio"/> At Production					
6. Testing Impact:	Project functionality only ▼ 768 IFPUG Function Points					
		Very Positive	Positive	Neutral	Negative	Very Negative
7. Reuse Opportunity:		<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Key Project Drivers:	Software Complexity:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Personnel Skill & Knowledge:	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Process Maturity:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Project Cost Rate:	\$ 160 / Hr					
10. Other Project Costs:	\$ 150000					
<b>Project Estimates</b>	<b>Best Case</b>		<b>Most Likely Case</b>		<b>Worst Case</b>	
11. Estimated Project Delivery Rates:	6.3 Hrs / FP <input type="button" value="Copy ..."/>	10.4 Hrs / FP <input type="button" value="Copy ..."/>	14.6 Hrs / FP <input type="button" value="Copy ..."/>			
	\$ 1,001 / FP <input type="button" value="Copy ..."/>	\$ 1,668 / FP <input type="button" value="Copy ..."/>	\$ 2,335 / FP <input type="button" value="Copy ..."/>			
12. Estimated Effort:	4,803 Hrs	8,006 Hrs	11,208 Hrs			
13. Estimated Cost:	\$ 918,532	\$ 1,430,887	\$ 1,943,242			
14. Output Estimates:	<input type="button" value="Output Estimate (HTML Report)"/> <input type="button" value="Output Estimate (CSV)"/> <input type="button" value="Output Estimate (XML)"/>					
15. Display Graphs:	<input type="button" value="Project Milestones - Effort Estimates"/>					

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# ESP: Parameters

## 1. Project Identification

- Project ID and/or description to identify the current project.
- Included in the HTML, CSV and XML outputs.

## 2. Project Classification

- The current project's type for which estimates are to be generated.
- The project classification determines the underlying data set upon which the generated estimates are based.



## ESP: Parameters

### 3. Included Project Phases

- The project life cycle phases to be included in the generated estimates.
- Entries 'Planning' to 'User Documentation' use fixed percentages relative to the entire project.
- Entry 'All Selected Phases – Project Management' uses a fixed percentage relative to the other selected entries.

### 4. Project Size

- The size of the current project for which estimates are to be generated.
- Expressed in IFPUG Unadjusted Function Points.



## ESP: Parameters

### 5. Project Phase when Function Point Analysis Performed

- The project phase when the Function Point Analysis was performed.
- The selected project phase impacts upon the breadth of the estimate ranges and the 'Best Case' and 'Worst Case' estimates.

### 6. Testing Impact

- The extent of the functionality within the application that may be impacted by the project and is therefore included in the project's test coverage.
- The extent of the testing impact may align with or be greater than the scope of the functionality created or modified by the project.



## ESP: Parameters

### 7. Reuse Opportunity

- The opportunity across the entire project for reuse.
- Rated on a nine point scale from 'Very Positive' through to 'Very Negative'.
- Use care in moving this driver from the 'Neutral' rating. A small change in the rating can have a significant impact on the estimates.



## ESP: Parameters

### 8. Key Project Drivers

- Specific drivers that influence the project's likely productivity.
- Drivers are 'Software Complexity', 'Personnel Skill & Knowledge' and 'Process Maturity'.
- Each driver is rated on a nine point scale from 'Very Positive' through to 'Very Negative'.
- Each driver is weighted to reflect its overall relative impact.
- The productivity range traversed by the drivers aligns with the typical range observed in a professional software delivery environment in the normal course of events.



## ESP: Parameters

### 9. Project Cost Rate

- The organisation's normal blended cost rate.
- Combined with project effort estimates to calculate project cost estimates.
- Expressed in \$.

### 10. Other Project Costs

- Additional flat costs associated with the project that are not determined from the project's Function Point Size.
- Added to the overall project cost estimates.
- Expressed in \$.



## ESP: Estimates

- Project Estimates
  - Estimates of productivity rate, effort and cost for the current project.
  - Estimates are expressed in terms of 'Best Case', 'Most Likely Case' and 'Worst Case'.
  - The 'Best Case' and 'Worst Case' estimates reflect the likely error in the estimation process based upon Function Point Analysis in general and the software delivery life cycle stage when the estimate was generated in particular.



# ESP: Estimates

## 11. Estimated Productivity Rates

- Estimates of productivity rate for the current project.
- Expressed in 'Hours per Function Point' and '\$ per Function Point'.

## 12. Estimated Effort

- Estimates of effort for the current project.
- Expressed in 'Hours'.

## 13. Estimated Cost

- Estimates of cost for the current project.
- Expressed in '\$'.



# ESP: Outputs

## 13. Output Estimates

- [Output Estimate (HTML)]
  - Output the project parameters and estimates as a simple HTML report.
- [Output Estimate (CSV)]
  - Output the project parameters and estimates in CSV format.
  - The resultant output can be saved and then opened using Excel.
- [Output Estimate (XML)]
  - Output the project parameters and estimates in XML format.