

iDefine is a complete suite of software tools that enable users to accurately define and capture the functional requirements of any new or existing application, providing added value throughout the safety life cycle.

iDefine data sheet | 2015

### KEY FEATURES

- Functional Safety Management (FSM) graphical environment, from concept through to operations and modifications
- A requirements capture and documentation tool for safety and control system management and design
- An engineering toolbox for simulation, detailed design, functional testing, documentation, code generation and management of change

### BENEFITS

- Reduce risk, time, cost
- Compliant, repeatable and consistent design
- Knowledge capture of engineers, operators, plant data
- Efficient use of valuable resource
- Accurate means for reverse engineering and upgrade of existing control and safety systems
- Adherence to company procedures and safety standards is inherent through use

## PRODUCT OVERVIEW

The iDefine software tool suite enables the user to accurately define and capture the functional requirements of any new or existing application, providing added value throughout the safety life cycle.

The layer of automation provided by the tool suite enables customers to reduce risk, meet time and cost milestones, and implement a standard company wide approach to safety life cycle issues. Users can configure and adapt their overall FSM philosophy, processes and procedures within the tool suite, encapsulating and improving their own functional safety environment in line with the guidelines of IEC61508/61511.

Many of the conventional manual activities typically employed during the safety/project lifecycle have been encapsulated into the tool suite. This allows the user to concentrate on an engineering solution, and leaves many of the repetitive manual tasks to be automatically executed in a compliant manner.

### REQUIREMENTS CAPTURE

iDefine WhiteBoards allow the user to specify and develop the overall project requirements, and cross-reference the latest priority information.

- Graphical 'Drag & Drop' format is easily understood
- Simple capture of information encourages team participation
- Team participation reflected in improved results from web conferencing
- Knowledge capture enables easier learning curve

### FUNCTIONAL SAFETY MANAGEMENT (FSM)

A dynamic WhiteBoard represents the FSM Layer. It allows the user to define the safety and project lifecycle phases, assign resource, plan activities, identify verification and functional assessment milestones and configure documentation.

- Compliance to FSM standards
- Easy to understand and configure due to graphical 'Drag & Drop' format
- Reduces workload and helps achieve safety targets
- Remote monitoring of FSM status
- Assignment of tasks to competent personnel is access controlled
- Automatic real time reporting

### POWERFUL DOCUMENT GENERATION

Project documents, based on typical company templates, are defined, configured and automatically generated within iDefine.

- Instant document generation reveals significant man hour savings
- A change in any item of project data is reflected automatically in the documentation
- Data tracking allows automatic production of 'change pack' documentation

### PLANT SIMULATION MODELS

Plant simulation models are developed to provide low fidelity process models and animated visual representation of process information and operator panels.

- Enables verification of requirements, and leads to a high level of confidence in the final design
- Playback feature enables remote review and approval
- 'What if' scenarios and degraded modes of operation can be explored to further increase robustness of the design
- Increases domain knowledge for plant operators and technicians

## TECH SPECS

**Processor**  
Pentium III,  
800MHz or higher

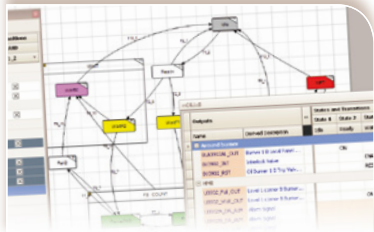
**Operating System**  
Microsoft  
Windows 7, XP

**RAM**  
512MB minimum

**Disk space**  
500MB minimum

**Software**  
Microsoft .Net  
Framework  
2.0 with SP2 is  
required for XP

**Software**  
MySQL Server  
version 5.0.37

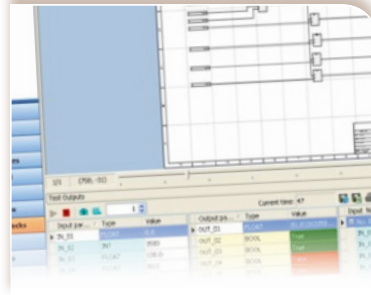


## DETAILED APPLICATION ENGINEERING

### STATE ANALYSIS (SA) MODULE

State Analysis Modules allows the user to develop state chart style models to describe the detailed behaviour of an application. When utilised as a method of design, SA Modules provide a robust means of transforming customer requirements to application code.

- Instant visual appreciation of process state helps develop understanding, promotes a robust safety design
- Design, partial and full emulation modes allow for verification of design and validation to requirements, lowering risk
- Automatic generation of application code as IEC61131-3 FB diagrams
- Rapid prototyping of customer requirements reduces the need for design freeze dates



### LOGIC EDITOR

The Logic Editor is an IEC61131 FBD editor used for graphically building logic diagrams. It is at the heart of many of the iDefine components, including the Function Block Editor, Typicals Editor, SA and CE Modules.

- Assign requirements, and build, test and document in minutes using simple, intuitive controls
- Re-use or import standard libraries for rapid replication, and standardisation of design
- Automatic data type validation improves quality and reduces errors
- Immediate emulation enables verification of design and validation to requirements, lowering risk

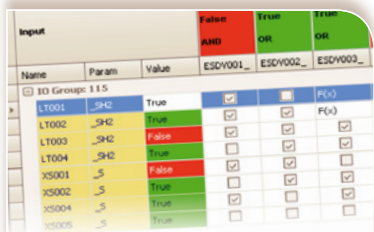


## INTEGRATED TEST FRAMEWORK

### VIEWERS

iDefine Viewers allow the user to combine simulation models and module components into a single framework for test and review. The simulation models and application logic run together providing an overall graphical representation of the system.

- Manual and ad-hoc testing of functional logic
- Full history recording, event recording and playback enables further review and refinement
- Snapshot input conditions to move directly to key process states for review, test or training exercise
- Export for use with iViewer and iVision enables re-use for remote review and plant monitoring

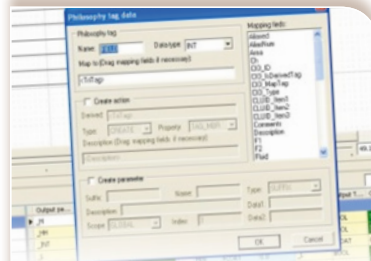


Input	Param	Value	False AND	True OR	True OR
IO Group: 115			ESD0001_	ESD0002_	ESD0003_
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L1002	_SH2	True	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
L1003	_SH2	False	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
L1004	_SH2	False	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X5001	_S	False	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X5002	_S	True	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X5004	_S	True	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X5005	_S	True	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CAUSE & EFFECT (CE) MODULE

The Cause & Effect module allows the user to develop a CE matrix to describe the functional relationship between input variable and output variable.

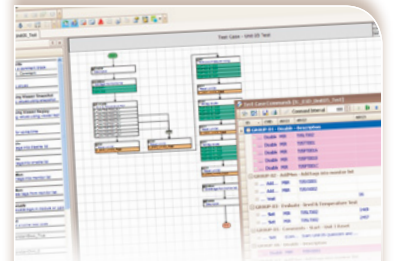
- Instant visual appreciation of process state helps develop understanding, promotes a robust safety design
- Immediate emulation enables verification of design and validation to SIS requirements, lowering risk
- Export to MS Excel (.xls) format, in conventional style and format preferred by many engineers
- Automatic generation of application code as IEC61131-3 FB diagrams
- Rapid prototyping of customer requirements enables a shorter design phase



### TYPICALS EDITOR

The Typicals Logic Editor uses the Logic editor to define logic templates. Generally used for IO and device processing logic, instances of the templates are incorporated into logic models allowing interfacing to the SA and CE modules.

- Powerful configuration engine helps apply formal conventions to automatically produce a consistent tag database
- Complex tag name conventions are simple to apply
- Re-use or import standard libraries for rapid replication, and standardisation of design
- Group Typicals support advanced grouping and linking



### TEST CASE EDITOR

The Test Case Editor allows the user to define functional test cases. The test cases are transformed into test scripts which can be executed in any of iDefine's emulation environments or supported target PLC.

- Automatic recording of response data for review and validation
- Integrated environment for development of formal test specifications, reveals significant man hour savings
- Advanced support for customisable user defined test functions
- Increased coverage provided by repeatable, functional Test Cases means that a target of error-free FAT becomes achievable