Machine

Measurement

Process

Management

Initial

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Nowadays, changes are constant in the business world. The Organizations confront problems of low quality and productivity, high cost,wastes, among others. Galaxy Application Environment is a powerful environment to solve the most several interoperability problems and critical mission for your business.

Initial

- ☑ Interface Independent of the Code
- ☑ Cross-Platform Application Development
- ☑ Distributed Application Development
- ☑ Spring and Strut
- ☑ Multilingual Application Development

Management

- ☑ Look-and-Feel Designed by the User
- ☑ Requirements Modeling
- ☑ Requirements Simulation
- ☑ Project Planning and Tracking
- ☑ Configuration Management
- ☑ Software Generation Starting From Requirements Modeling
- ☑ Requirements Sharing
- ☑ Decrease of Wastes and Residues
- ☑ Systems Integration Automatically

Process

- ☑ Requirements Control
- ☑ Systems Integration Automatically
- ☑ Software Generation Starting From Business Process
- ☑ V&V (Verification and Validation)
- ☑ Modeling of Three-Dimensional Business Process
- ☑ Simulation of Three-Dimensional Business Process
- ☑ Competence Sharing
- ☑ Risk Management
- ☑ Decrease of Wastes and Residues
- ☑ Process Integration

Measurement

- ☑ Emulation of Three-Dimensional Business Process
- ☑ Process Quality Management
- ☑ Software Quality Management

Machine

- ☑ Integrated Improvement Environment
- ☑ Web Process Service
- ☑ Process Slice and Trace

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Comparison Chart

	Initial	Management	Process	Measurement	Machine
DAS	X	X	X	X	X
Library Class 4.0	X	X	X	X	X
Resource Environment	X	X	X	X	X
Database Protocol	X	X	X	X	X
XML Protocol	X	X	X	X	X
HTTP Protocol	X	X	X	X	X
Dictionaries	X	X	X	X	X
Requirements Environment		X	X	X	X
Configuration Environment		X	X	X	X
Process Environment			X	X	X
Risks Environment			X	X	X
Training Environment			X	X	X
Quality Environment				X	X
Web Process Service Environment					X

- Galaxy is a multiplatform development environment with editing tools, interface construction tools, and runtime classes that combine into a comprehensive environment.
- Galaxy can be used to develop solutions for your business, since a "stand-alone" departmental application until a sophisticated distributed application addressed to the problems of the enterprises at the long distance.
- Galaxy is a powerful tool to solve the interoperability problems and critical mission between platforms and different operating systems, because with only one developed code, it is possible to port for the several platforms, remaining more time to solve the processes business to your company.

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Initial

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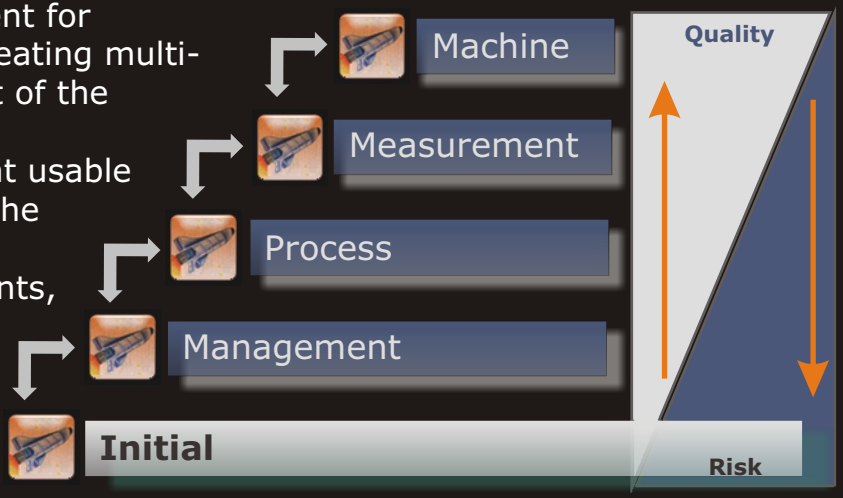
- ✓ Advanced Object-Orientation offres dynamic binding capability with C and C++;
- ✓ The Galaxy Resource Environment is a powerful visual tool for constructing the graphical user interface and other resources of an application;
- ✓ The resources created by the Resource Environment are stored in a totally portable binary format, and are located and retrieved quickly with a sophisticated indexing scheme;
- ✓ Organized into over 50 class managers in four categories: structural foundations, distributed computing abstractions, operating system abstractions, and window system/GUI abstractions;

- ✓ Support for all major platforms, including Windows, many versions of UNIX, Macintosh, FreeBSD and Linux;
- ✓ Distributed Application Services (DAS) provides a robust set of libraries, runtime services and tools for distributed applications.

Technical Added Values

1. Resources development environment for partitioning applications and for creating multi-language dictionaries, independent of the application code;
2. Interface development environment usable for business people, which allows the visual geometry management and harmonic distribution of the elements, independent of the application code;
3. Environment for distributed applications development per element of the business process;
4. Transplatform development environment;
5. Multiplatform environment that disposes operating system protocols libraries, such as memory management, mutexes and conditions, trace statements, operational process management, among others.



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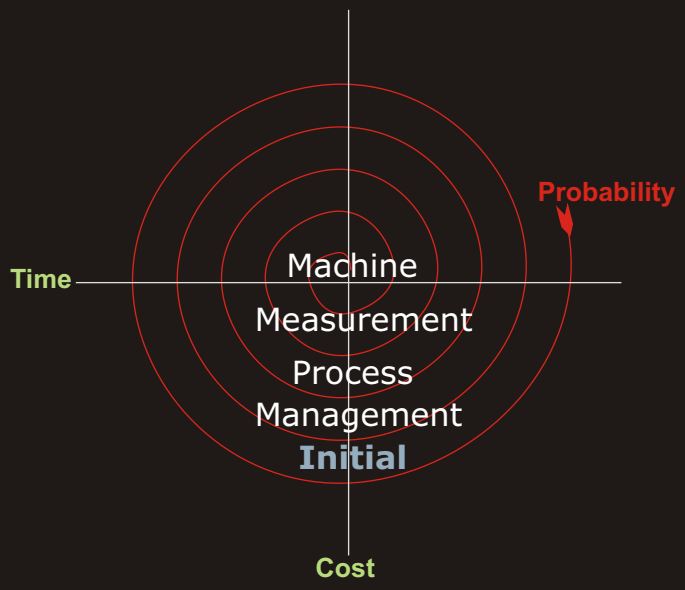
Economic Added Values

- No system interface maintenance cost and time without changing the code semantics; *(1,2,4)*
- At least 30% decrease of the distributed applications development active effort using distribution built-in services; *(3,4,5)*
- No Resources development and maintenance cost and time for presenting contents in several idioms. *(1)*

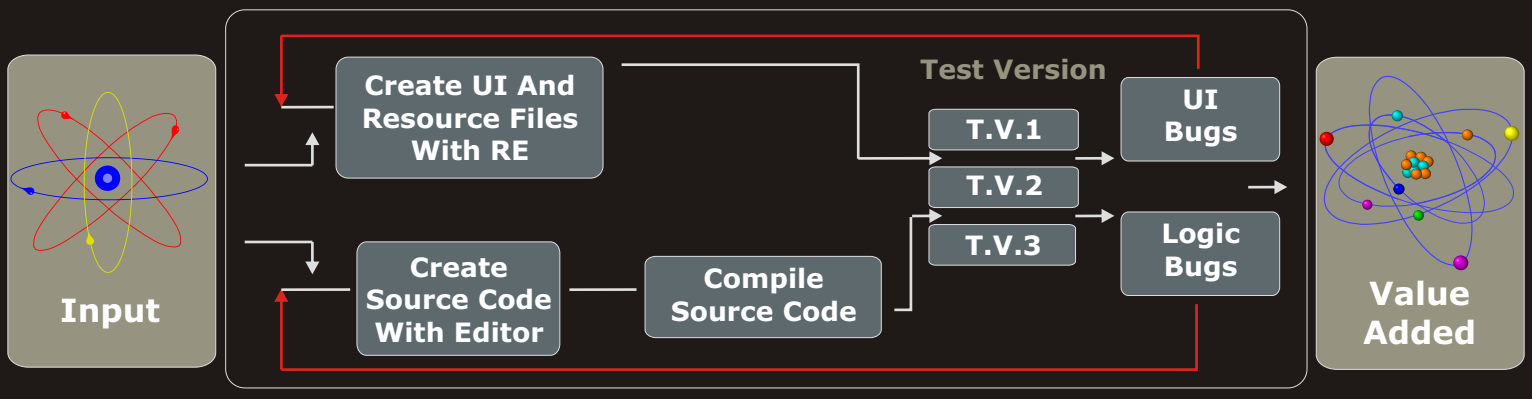


Development time

$$\text{Galaxy} = \frac{\text{Development time in specific platforms}}{\text{number of platforms}}$$

Development cost

$$\text{Galaxy} = \frac{\text{Development cost in specific platforms}}{\text{number of platforms}}$$



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Configuration Environment

- ✓ Configuration Environment is a solution that simplifies the changes management in the system components, providing the components version and components sharing among the developers.
- ✓ Configuration Management establishes and it maintains the integrity of components (requirements, design or code source) allowing its identification, control, status verification and audits.

Requirements Environment

- ✓ Requirements Environment is a powerful tool for requirements analysis and synthesis. This environment facilitates to accomplish the whole modeling, planning, tracking, control and management of the requirements business, system and development (operation, management or infrastructure), incorporating all the activities executed during the information systems development.
- ✓ Requirements Environment is an environment of graphic and textual language, integrated and intuitive that allows to model and to simulate the business requirements, for posterior information systems implementation.
- ✓ Requirements simulations allows identify and to solve the inconsistencies among the requirements, decreasing the implementation effort and tests cycle of the information systems generation.

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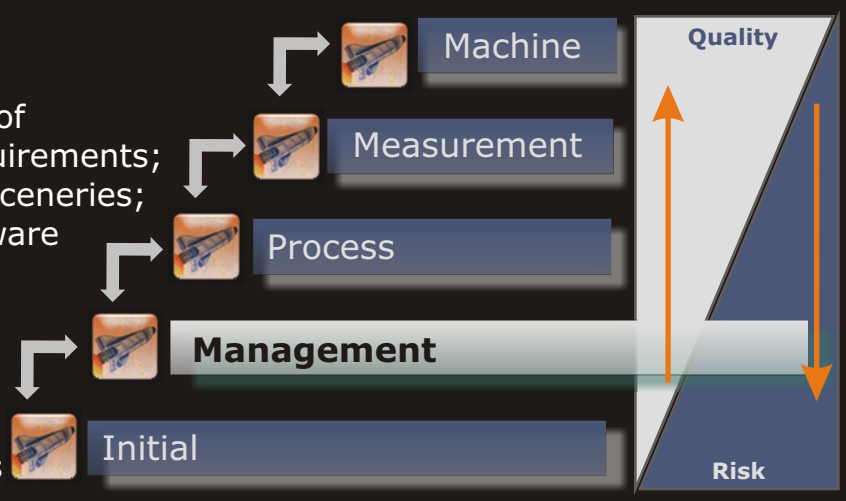
Technical Added Values

1. Multiplatform resources to represent, store, locate and recover applications resources;
2. Look-and-feel defined by the user;
3. Zero-energy integration;
4. Identification and characterization of customer, product and system requirements;
5. Requirements simulation through sceneries;
6. Distributed and multiplatform software generation in accordance with the modeled requirements;
7. Identification, characterization and simulation of collateral effects in the requirements changes, due to the existence of partition operators processes and software;
8. Environment for sharing requirements and best practices;
9. Environment to explicit dualities and self-defenses for all the modeled requirements;
10. Environment for identification, characterization and simulation of operation of the organizational development process, for projects planning and tracking;
11. Environment for identification, characterization and synthesis of wastes and residues of the requirements;
12. Automatic integration of the requirements;
13. Integrity warranty of the models and simulation sceneries of the developed systems and processes.



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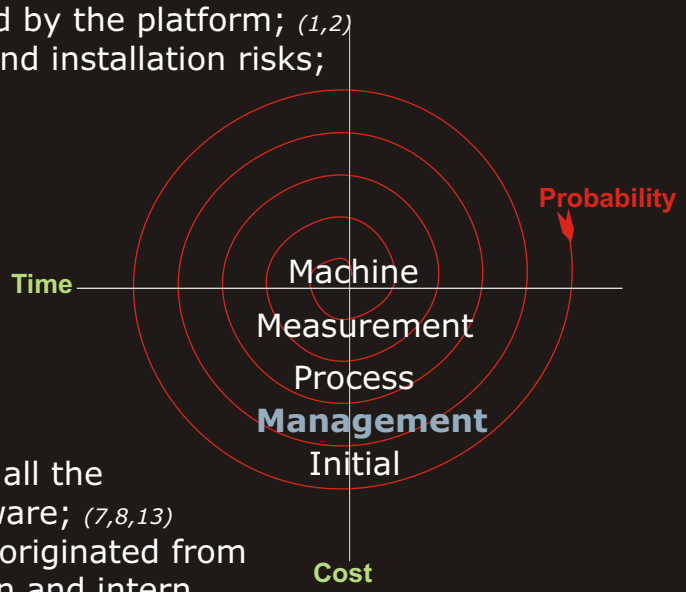
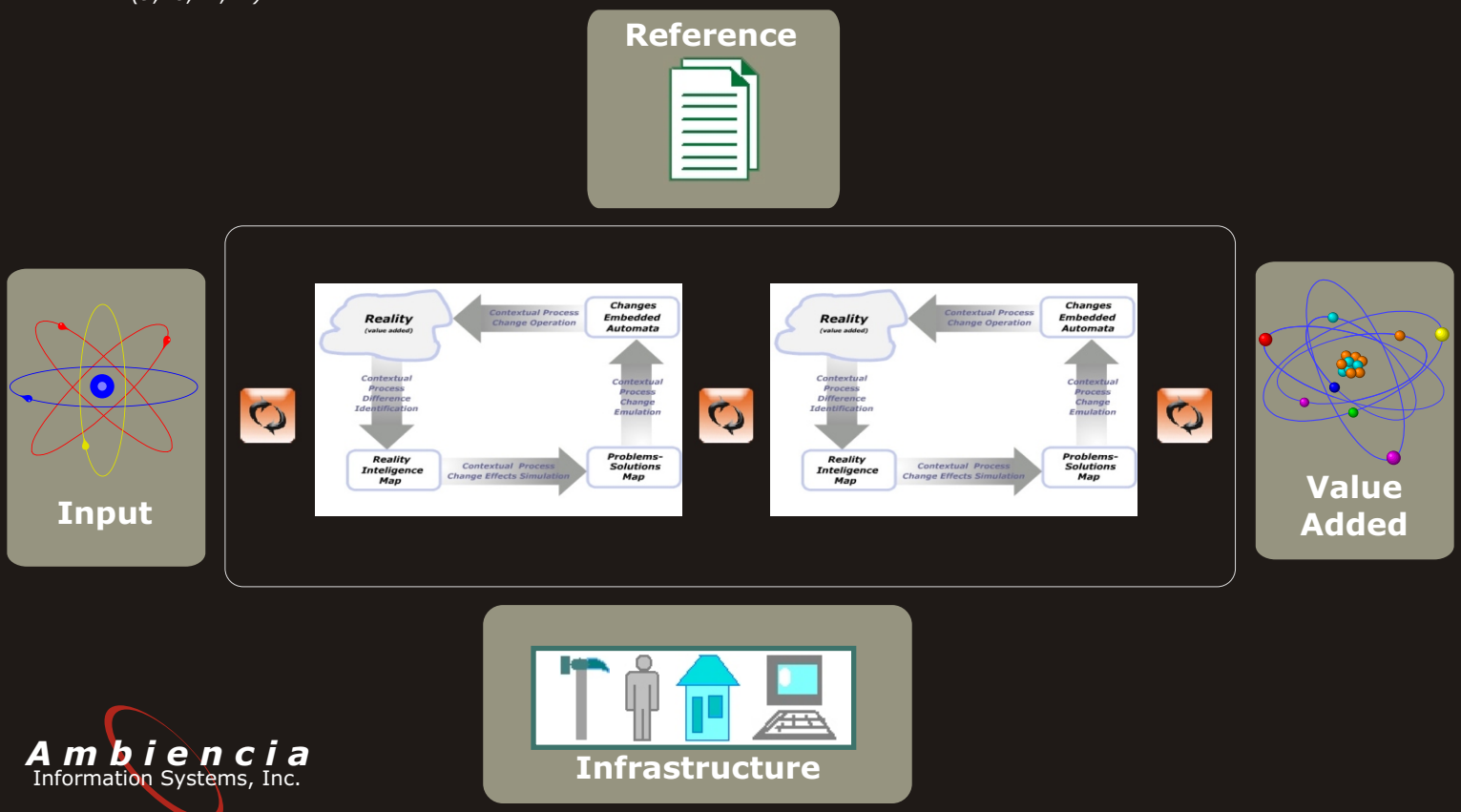
Management

Economic Added Values

- No system maintenance cost and time; *(3,4,5,6,12)*
- At least 30% productivity increase due to the relocation of human resources originated from system maintenance and codification; *(9,10,11)*
- No need of interfaces user approval, these interfaces can be independent of the look-and-feel disposed by the platform; *(1,2)*
- 30% decrease of systems configuration and installation risks; *(4,5,6,7,9,10,12)*
- No codification phase. In other words, 20 to 30% of the entire development effort in organizations with CMM level 2 and 40% to 60% in organizations with CMM level 1); *(6)*
- Total warranty of adherence between requirements specification and the system, facilitating the audit and control activities; *(10,13)*
- Automatic registration, with zero cost, of all the changes made in the processes and software; *(7,8,13)*
- Elimination of the organizational wastes, originated from the lack of synchronism among the extern and intern interactions, in the organizations, by means of the Web. *(9,10,11,12)*





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Process

Process Environment

- ✓ Process Environment is a three-dimensional process modeling environment (operation, management and infrastructure), with a graphic and textual language. The modeling is accomplished according to the Primethod methodology of the P3Tech technology.
- ✓ Process Environment allows the organization to generate systems starting from the business process specification, providing better adaptability and flexibility in the solution to be developed to the end user.
- ✓ Process Environment allows the organization to identify, to plan and to execute improvements in your business process.

Risks Environment

- ✓ Risks Environment is an environment that helps the business to avoid the wastes, risks, wait queue, through simulations and emulations of the business processes, increasing the productivity and decreasing the changes risks.
- ✓ The risks are identified in the business process and explicit in reports format, identifying potential problems in the business execution and consequent information systems.

Training Environment

- ✓ The Training Environment is responsible for organizational competence sharing and competence management. The great characteristic of this environment is that it is not based in a simple knowledge base, it based in the explicit competences in the organizational business process.
- ✓ Training Environment generates a site to the business in agreement with the business process specified in the Process Environment. So the organization has all its process automatically documented in a web server.

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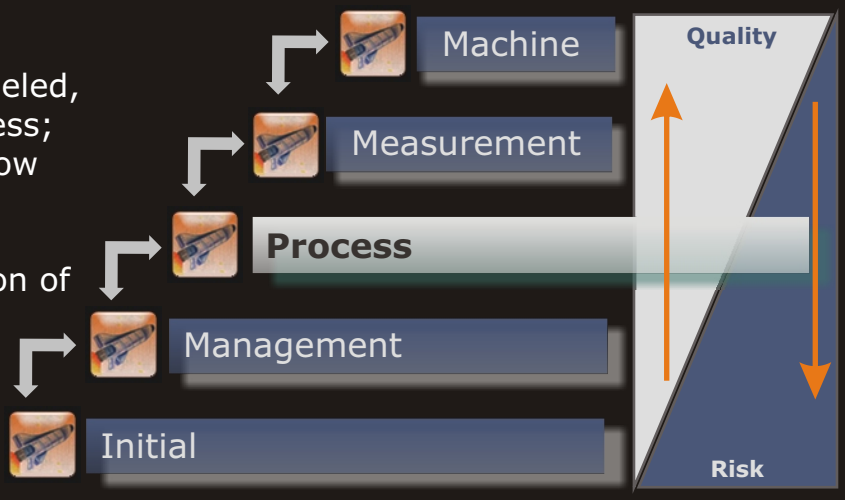
Process

Technical Added Values

1. Three-dimensional processes: operation, management and structure; they evolve independently and in synchronism with the business added values;
2. Management (tracking, command and control) of the modeled and simulated processes;
3. Zero-energy integration;
4. Software one-for-one with the modeled, distributed and multiplatform process;
5. Automatic generation of the workflow required by the business process;
6. Environment for quantitative and qualitative verification and validation of the processes and systems;
7. A single communication protocol among the several business competences;
8. Exponential generation of new business possibilities;
9. Competence and best practices sharing environment;
10. Environment to explicit dualities and self-defenses for all the elements of the organizational business process;
11. Environment for identifying, characterizing and synthesizing wastes and residues of the organizational processes;
12. Environment for generating the documentation of all the organizational processes;
13. Automatic integration of the organizational processes.



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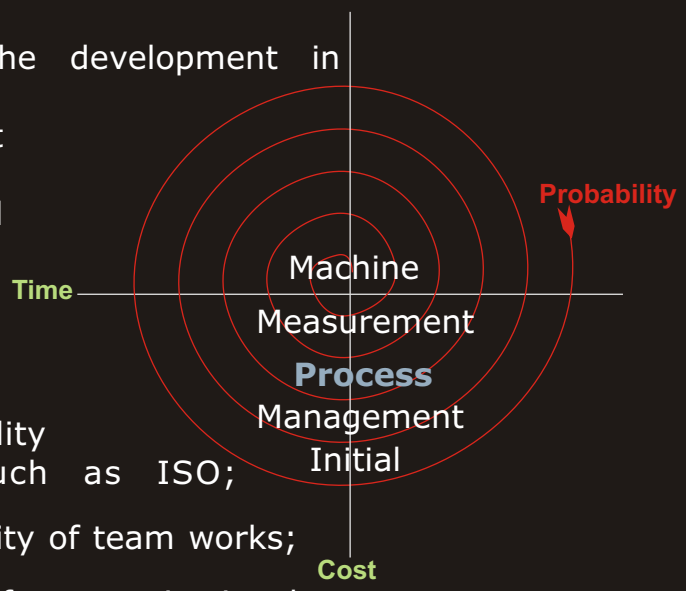
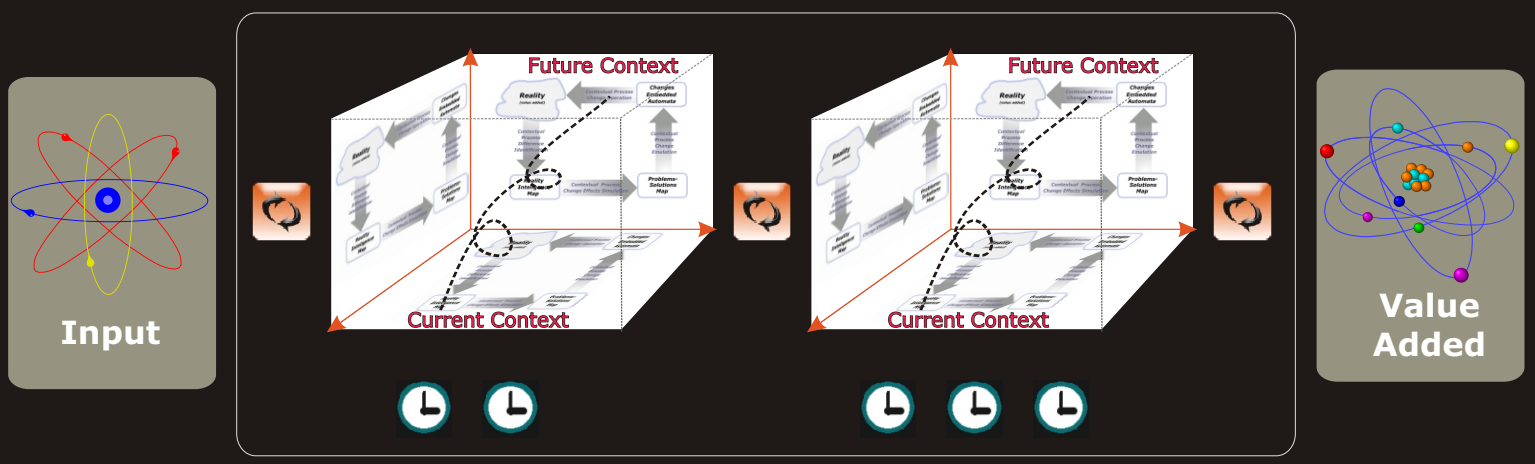
Process

Economic Added Values

- Elimination of the systems integration phase – 30% of the development total time; *(1,3,4,5)*
- Zero cost of systems integration; *(1,3,4,5)*
- No codification phase (20% of all the development in organizations with CMM level 3); *(3,4,5)*
- No management systems development cost and time; *(1,2,5)*
- 45% decrease of the configuration and installation risks of the organizational business process; *(1,5,7,8,9,10,13)*
- 45% decrease of the configuration and installation risks of the generated systems; *(3,4,5)*
- 50% decrease of the costs of quality improvement processes projects, such as ISO; *(1,2,6,7,9,10,12,13)*
- 20% increase in the quality and productivity of team works; *(6,7,8,9,11)*
- Zero cost in the materials production for organizational training; *(1,12)*
- Zero risk in the organization turnover; *(9,10,12)*
- 50% decrease of the total cost and time of projects that requires the integration of several protocols and technologies. *(3)*





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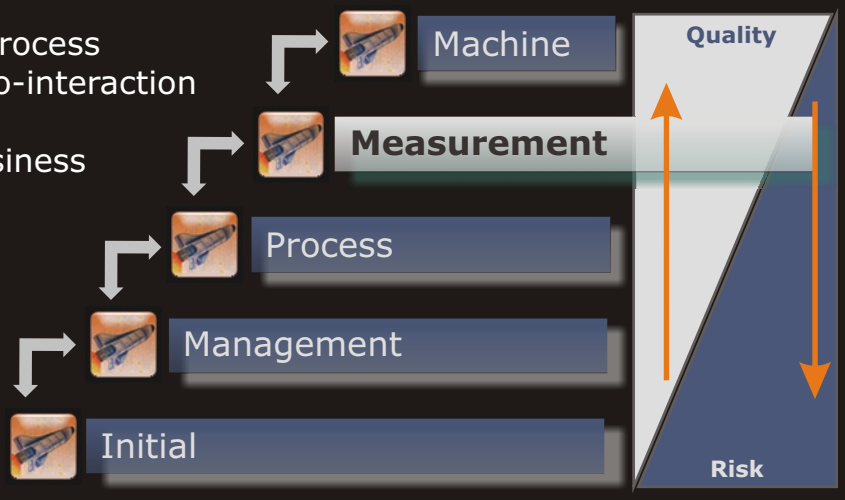
Measurement

Quality Environment

- ✓ Quality Environment is an environment that helps in the business process quality assurance. With this environment it is possible to visualize and to tracking goals of product quality and process in agreement with the business process specified.
- ✓ Quality Environment allows the automatic generation of the management information systems, starting from the business process specified. Such systems incorporate the qualitative and quantitative items of the business operation and infrastructure. The environment allows that the organization accomplish the quantitative and qualitative management of its business in runtime.

Technical Added Values

1. Contemplates proto-interactions: process prototype purification and the proto-interaction among the distributed prototypes;
2. Emulation of the organizational business process map;
3. Emulation of the communication protocols;
4. Implements the quantitative and qualitative management of the organizational processes;
5. Every action is registered as a new process included within the organizational process.



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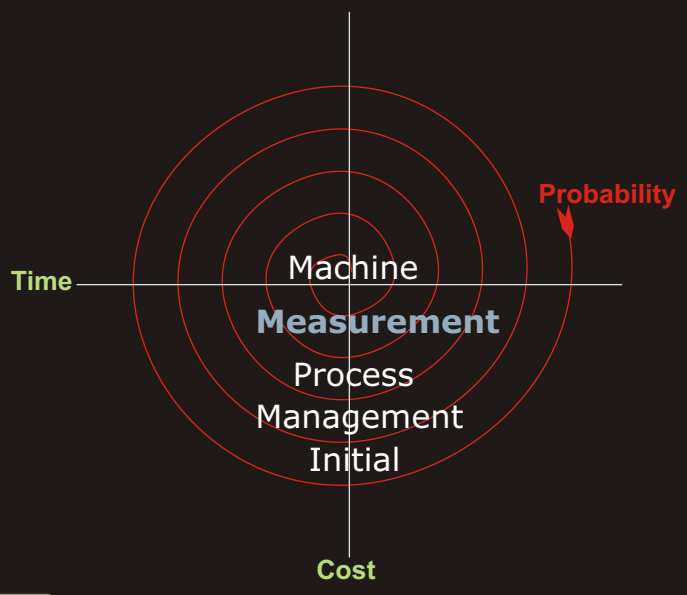
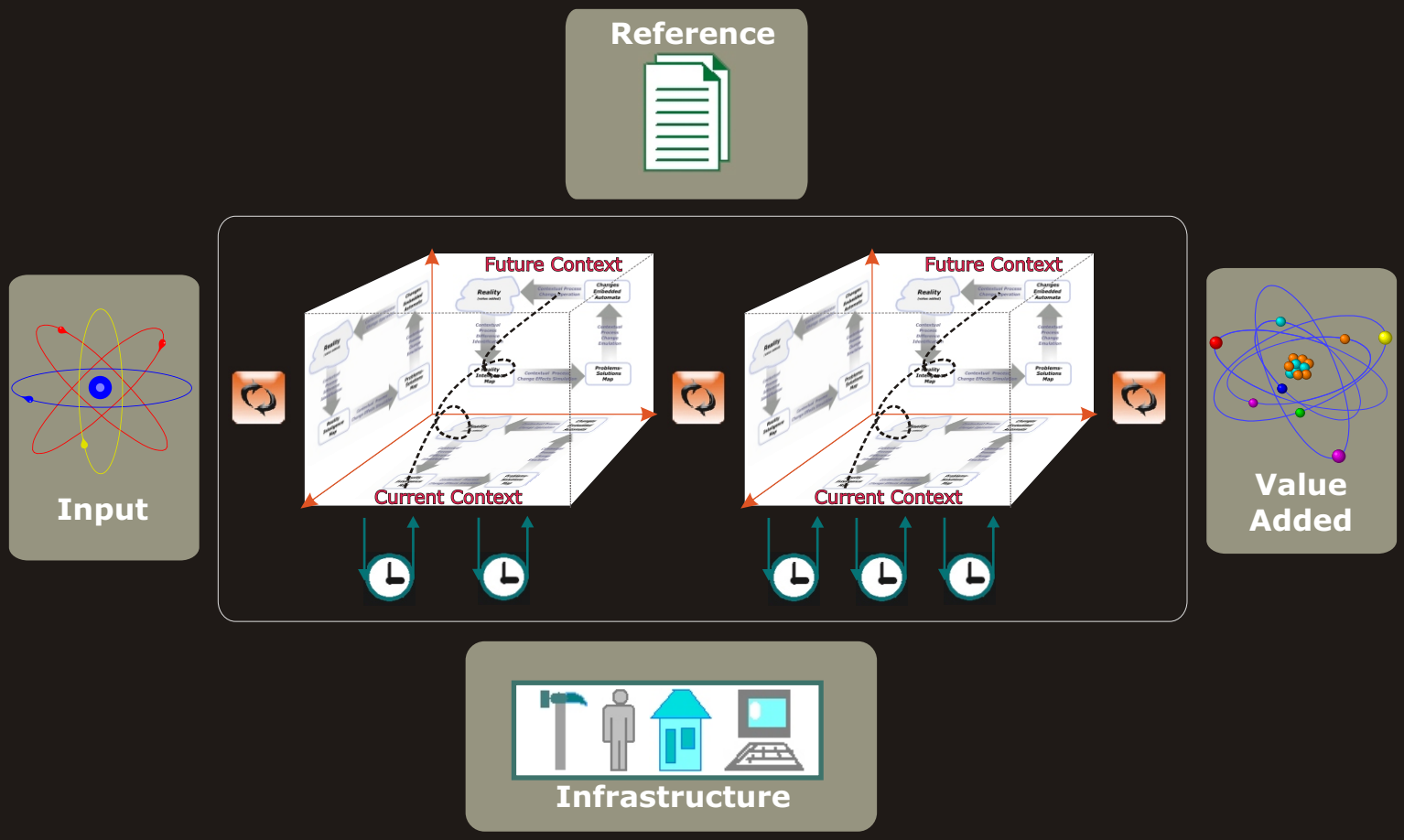
Measurement

Economic Added Values

- Elimination of the physical infrastructure acquisition technical risk; *(1,2,3)*
- Elimination of the field tests cost and time; *(1,2,3)*
- 100% warranty of decision-making based on business processes and statistical data within the same process; *(1,2,4,5)*
- 40% improvement on project time and cost. *(1,4,5)*





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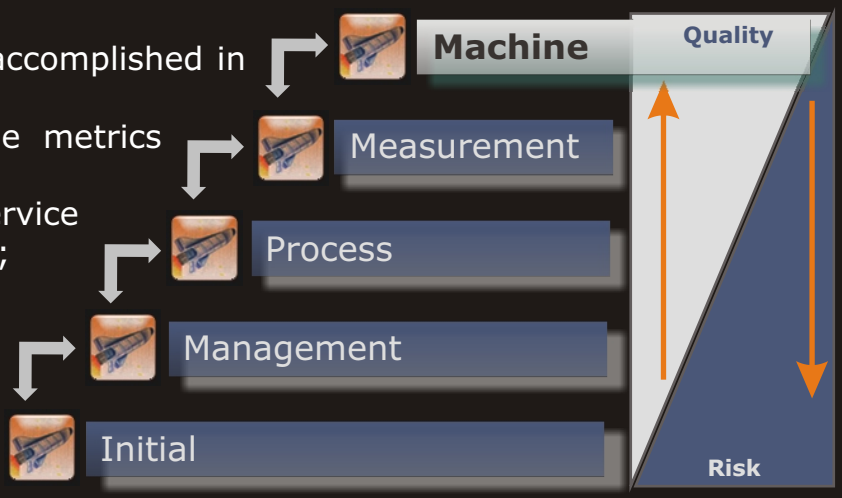
Machine

Web Process Service Environment

- ✓ Web Process Service Environment supplies the business process interoperability in different or same organizations and infrastructures.
- ✓ Web Process Service Environment builds systems in agreement with the business processes without integration additional efforts and efforts to generate compatibility among platforms. These features warrant more flexibility to the business.
- ✓ Web Process Service Environment helps the organizations to decrease the business implementation costs, due the facility of continuous changes that the process will have. This occurs because the product reproduces automatically the business process changes to the internal systems.
- ✓ Web Process Service Environment integrates so technology so the business processes among the organizations through the processes sharing.
- ✓ In this environment is possible to run process slice and/or process trace in real time (in the reality), increasing the productivity and decreasing the risks during the business decisions. Being like this, it is possible to establish a continuous improvement program in agreement with the business metrics established and new technologies included without impact to the systems and current processes. All the technological and system changes are set only and exclusively in the business changes.

Technical Added Values

1. Solution that integrates the organizational business process definition and their information systems generation;
2. The changes of the processes are accomplished in real time;
3. All the changes are based on the metrics collected from reality;
4. Generation and integration of service processes (competences) in the web;
5. Web Process Service;
6. Tool for search and selection of solution alternatives for the business process problems.



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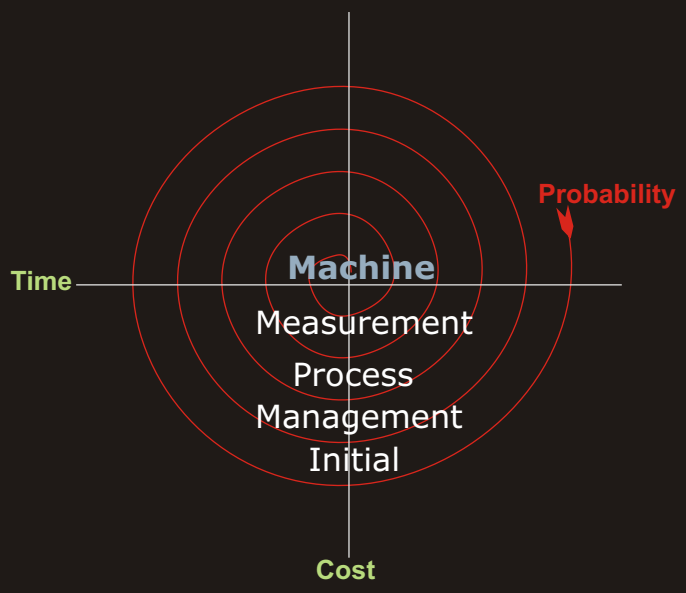
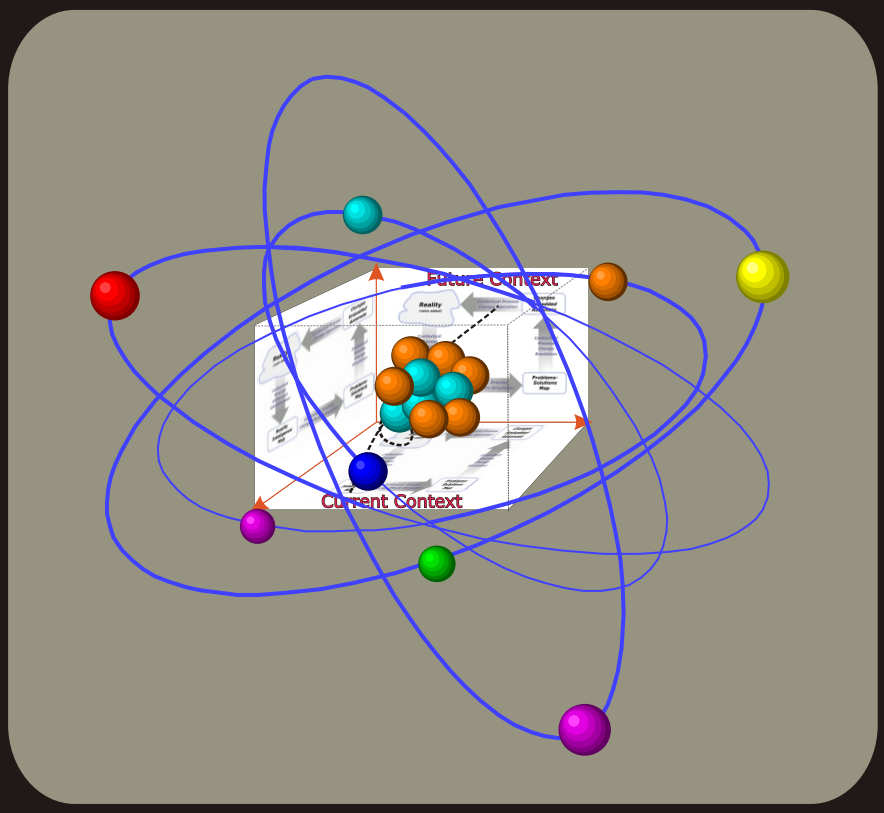
Machine

Economic Added Values

- Zero effort and cost in information systems automation; *(1,5)*
- Zero effort and cost in computer systems maintenance; *(1,5)*
- Contemplation of all the characteristics to elevate an organization's CMM to level 5; *(1,2,3,4,5,6)*
- Generation of work and income; *(4,5)*
- Explicitation and exponentiation of competences for generation of new business; *(4)*
- 100% warranty of the organizational process control; *(2,3,6)*
- 100% warranty of the time-frame organizational process occurrences registry; *(2,3)*
- 30% increase of the best organizational practices usage. *(3,5,6)*





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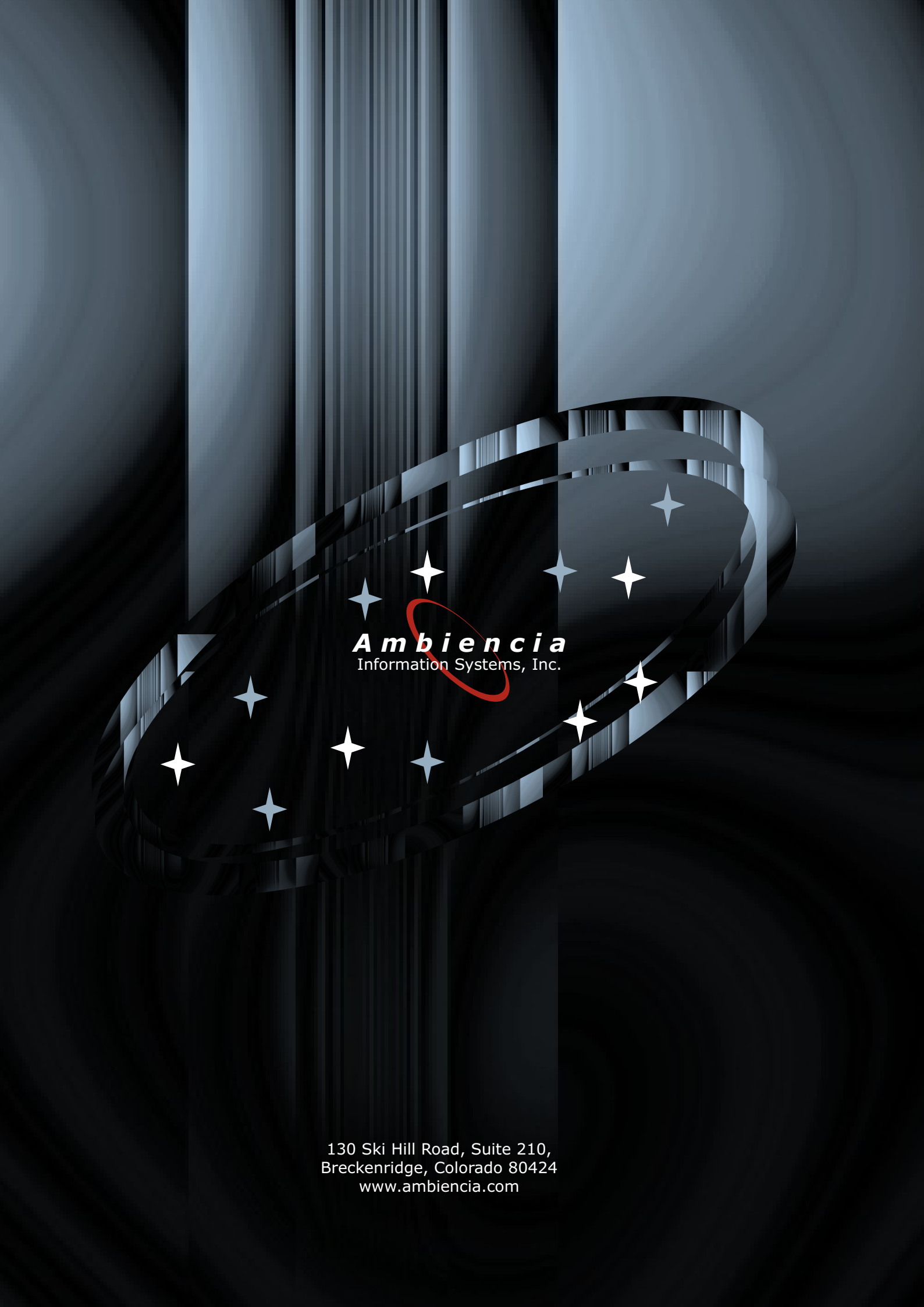

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