



The Unicist Research Institute  
Pioneers in Complexity Science Research since 1976

A Collaborative R&D Project

# Unicist Root Cause Management System

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to Monetize the Generation of Value

## Industry 4.0

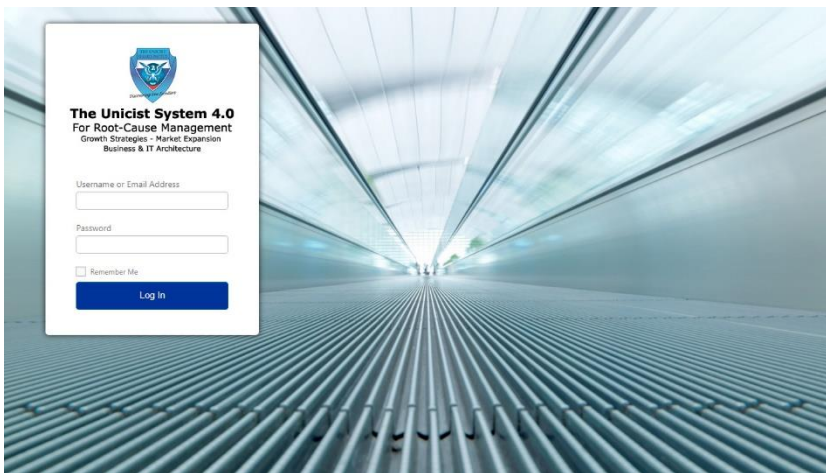
A Unicist Cognitive System  
to Manage the Root Causes of Businesses  
with Unicist Artificial Intelligence

# Unicist Root Cause Management System with Unicist AI Support

For companies that already manage process improvement approaches

The Unicist Confederation is the business arm of The Unicist Research Institute, a pioneer in complexity science research since 1976, and one of the precursors of the 4th Industrial Revolution that introduced the unicist ontogenetic maps to manage complexity and deal with adaptive systems. These ontogenetic maps made Unicist Artificial Intelligence possible, emulating human intelligence and the intelligence that underlies nature. It is a core tool to manage the Industry 4.0 concept.

## Emulating and Developing Root Cause Solutions Using Unicist Artificial Intelligence



The Unicist Root Cause Management System is based on the concepts and fundamentals of business processes to manage the root causes of problems to build business solutions using business objects. It is developed as a participative R&D process based on solving urgent problems by building structural solutions.

The implementation of the system begins with the use of a prototyper that is provided by The Unicist Research Institute that includes the Unicist AI Monitor to develop solutions that is transformed into a system through multiple pilot applications.

The participative R&D model that is used ensures the functionality and confidentiality of the solutions.

This approach emulates the organization of nature by developing a maximal strategy to expand and a minimum strategy to ensure results.

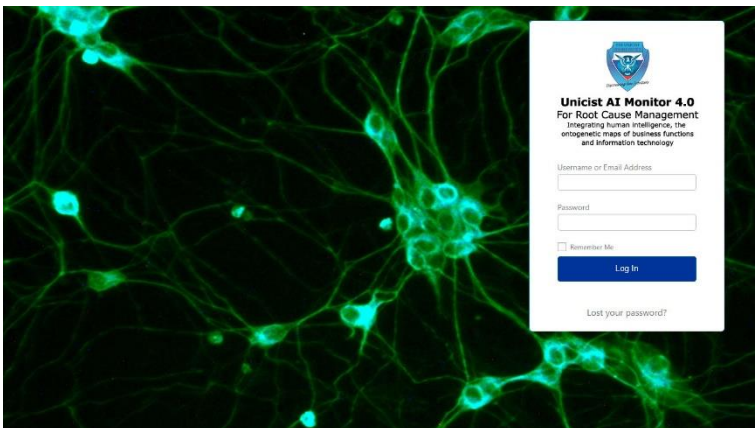
# Features of the Root Cause Management System

The Unicist Root Cause Management System is a decision support system to emulate and develop solutions including both the triggering and the root causes. It includes:



1. It begins with the use of a "Prototyper" to develop solutions based on the root causes of problems and manage Pilot Tests
2. Unicist AI Monitor to manage root causes
3. Avant Garde Groups to develop solutions
4. Pilot Testing System to manage the feedback and learn from the environment
5. Knowledge Management System to build and manage knowledge objects
6. Root Cause Library to access the ontogenetic maps of business functions
7. Unicist Corporate University working as a Teaching Hospital in Business
8. Unicist Coaching 4.0 to support the solution of complex adaptive problems

## The Unicist AI Monitor



Unicist Artificial Intelligence was developed to manage the conceptual structures and root causes of business functions and to develop the conceptual design of solutions.

It is based on the ontogenetic maps of the business functions that have been integrated with operational information to de-

velop solutions and monitor the results. UAI emulates the functionality of human intelligence and allows developing solutions considering the information of the context, which defines what is possible to be achieved and what is needed to be done to make it happen.

When managing Big Data, machine learning is dependent on the quality of learning data sets, that is why it is subject to cognitive bias. The use of the ontogenetic maps of business functions avoids the bias and ensures the quality of intelligent big data analysis.

## A Cooperative R&D process to ensure functionality



The Root Cause Management System is installed as a cooperative R&D process to manage the root causes of business processes. To ensure its functionality, we opted for a cooperative R&D process to install this system. It uses a prototype that is provided by The Unicist Research Institute and is developed while it is applied based on the feedback of the pilot tests.

It is installed with the participation of the members of organizations and includes the Unicist AI Monitor and the knowledge base of the conceptual structures of the business processes. It also includes all the information developed by the company where the Unicist Root Cause Management System is installed.

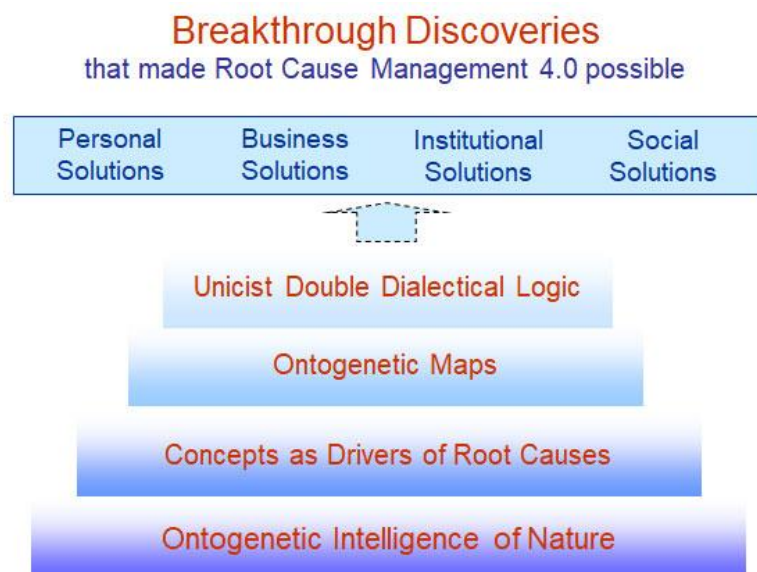
## Breakthrough Discoveries that sustain Root Cause Management

The Unicist Root Cause Management System is an intelligent knowledge system to increase productivity, quality, adaptiveness and customer orientation. It is based on several basic discoveries that allowed introducing the Industry 4.0 concept in management:

1) **Ontogenetic Intelligence of Nature:** It defines the triadic functionality of nature and allowed apprehending the concepts that define the nature of business functions.

2) **Unicist Strategy:** that emulates the intelligence of nature and allowed developing maximal strategies to grow and minimum strategies to ensure results.

3) **Unicist Conceptual Management:** that emulates the



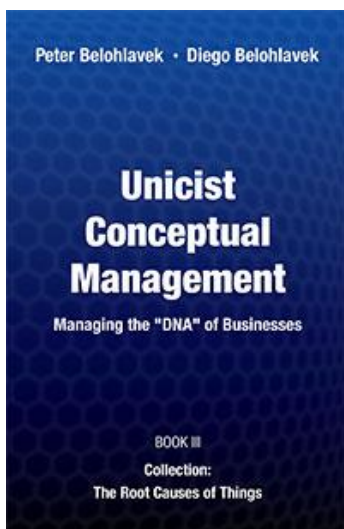
organization of nature and allowed managing the concepts that underlie business functions to ensure results.

4) **Concepts as Drivers of Root Causes:** The functionality of concepts and fundamentals defines the root causes of adaptive business functions.

5) **Ontogenetic Maps:** Ontogenetic maps describe the conceptual structure of specific complex adaptive systems or environments.

6) **Unicist Double Dialectical Logic:** The unicist logic provided the intelligent rules to manage complex adaptive systems.

## The Avant Garde Groups to Develop Solutions



The Avant Garde Groups ("A" Groups) are used to solve problems and improve processes. They are coordinated by a member of the organization and supervised by a CXO or a Committee to approve the use of their proposals.

They work within the framework of the Unicist Corporate University, that works as a Teaching Hospital in Business.

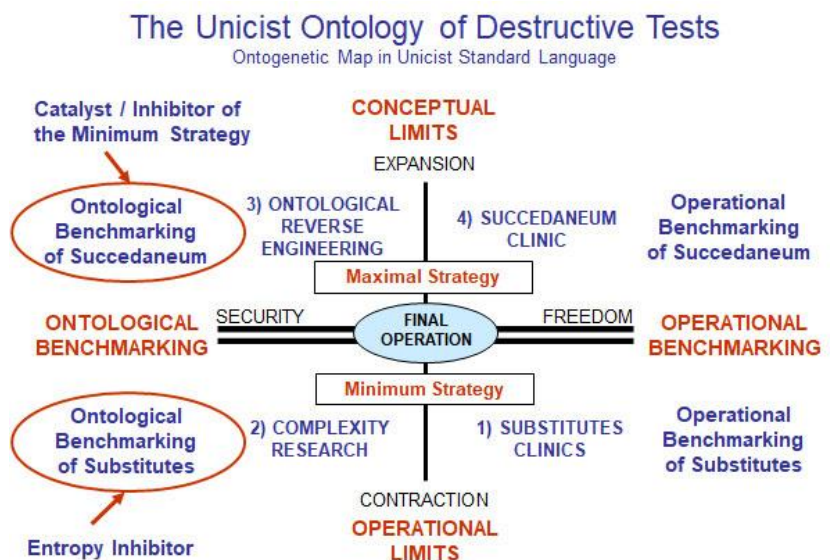
They use the input of the knowledge base, the prototyper and the Unicist AI Monitor to develop the processes and business objects that are used in the pilot testing process.

Their final solution is proposed after it has been tested using destructive and non-destructive tests.

## Pilot Test Driven Implementation

The implementation process of unicist technologies is developed using unicist concepts and fundamentals to define the root causes of the problems that are being solved and the root drivers of the solutions.

Pilot tests are developed as destructive and non-destructive tests that drive the reflection processes to find the root causes of problems and confirm the functionality of the solutions.



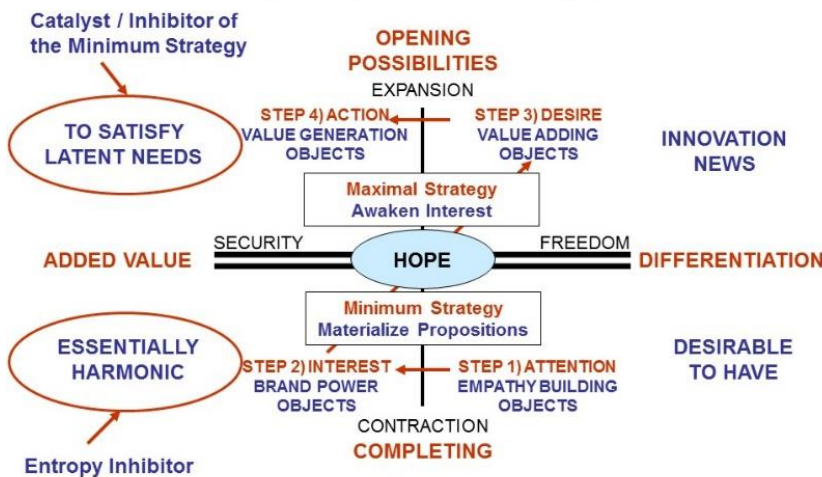
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The Pilot testing groups, integrated with members of the clients, use the prototyper provided by The Unicist Research Institute.

## Unicist Knowledge Management System

### The Unicist Ontology of Commercial Objects

Ontogenetic Map in Unicist Standard Language



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The unicist knowledge management system has been developed to build business objects libraries, factory-objects pools and knowledge objects banks to be used as an input to develop and improve business processes.

The main applications of this system deal with the development of: business objects and factory objects libraries, knowledge objects libraries,

knowledge acquisition systems, knowledge management systems and knowledge groups, among others.

## Unicist Root Cause Library

The information of the structure of the concepts included in this library allows managing the root causes of business functions.

The root cause library is based on more than 5,000 researches developed at The Unicist Research Institute.

It provides the knowledge objects, concepts and fundamentals to build business solutions including strategies, processes, roles and business objects.

# Unicist Teaching Hospital in Business



The Root Cause Management System requires managing the fundamentals of the adaptive business processes which are those that are feedback dependent.

The Unicist Reflection Driven Learning System is an educational platform to give access to the unicist technologies that are needed to manage the root causes of businesses.

The participants of these programs are managers, leaders and high potentials of an organization that learn to manage the solution building processes that are developed with other members of the organization. The programs of the system are based on virtual collaboration to simplify and optimize the time invested by the participants.

## Unicist Business Coaching 4.0

The implementation of the Unicist Root Cause Management System includes an external coaching process to support the solutions that are being developed and ensure the functionality of the pilot test and the learning process of the system.



This external coaching process happens online working with the Participants using the Prototyper of the system, the Unicist AI Monitor and the Knowledge Base that has been defined.

The Unicist Coaching 4.0 model has been designed to support the development of strategies and actions to manage the adaptive aspects of businesses.

## Main Markets (Generic)

- Automobile • Food • Mass consumption • Financial • Insurance • Sports and social institutions • Information Technology (IT) • High-Tech • Knowledge Businesses • Communications • Perishable goods • Mass media • Direct sales • Industrial commodities •

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Agribusiness • Healthcare • Pharmaceutical • Oil and Gas • Chemical • Paints • Education • Services • Commerce and distribution • Mining • Timber • Apparel • Passenger transportation –land, sea and air • Tourism • Cargo transportation • Professional services • e-market • Entertainment and show-business • Advertising • Gastronomic • Hotel-management • Credit card • Real estate • Fishing • Publishing • Industrial Equipment • Construction and Engineering • Bike, motorbike, scooter and moped • Sporting goods

## Country Archetypes Developed

• Algeria • Argentina • Australia • Austria • Belarus • Belgium • Bolivia • Brazil • Cambodia • Canada • Chile • China • Colombia • Costa Rica • Croatia • Cuba • Czech Republic • Denmark • Ecuador • Egypt • Finland • France • Georgia • Germany • Honduras • Hungary • India • Iran • Iraq • Ireland • Israel • Italy • Japan • Jordan • Libya • Malaysia • Mexico • Morocco • Netherlands • New Zealand • Nicaragua • Norway • Pakistan • Panama • Paraguay • Peru • Philippines • Poland • Portugal • Romania • Russia • Saudi Arabia • Serbia • Singapore • Slovakia • South Africa • Spain • Sweden • Switzerland • Syria • Thailand • Tunisia • Turkey • Ukraine • United Arab Emirates • United Kingdom • United States • Uruguay • Venezuela • Vietnam

## About The Unicist Research Institute



The Unicist Research Institute (TURI) is, since 1976, a private global decentralized research center specialized in complexity sciences that is focused on the research of the evolution of natural and artificial adaptive systems. It has an academic arm, the Unicist Corporate University, and a business arm, the Unicist Confederation.

It was the pioneer in complexity science research and became a global decentralized leading research organization in the field of human adaptive systems. The unicist pragmatism, the structuralism based on unicist ontologies and the functionalism driven by concepts were developed at TURI to research the field of complex adaptive systems. More than 5,000 unicist ontological researches were de-

veloped since 1976 in the field of basic sciences, life sciences and individual, institutional and social evolution.

The main countries that originated these researches were: US, DE, UK, FR, JP, SE, CA, CH, IN, BR, AR, CAT, RU, CN, AU. TURI's Future Research Laboratory has completed the research of 70 countries' archetypes. <https://www.unicist.org/turi.pdf>

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