



## Why Kernelis Resilience?

Organizational risk and resilience assessment should not be playing dice and should not give room to subjectivity. However, conventional methods, which all aim at answering the question "What might go wrong?", are based on intuition and are therefore subjected to human and cognitive biases. Hence, the risk-based approach, which is the current rule in multiple domains of activities (national defense, drugs and biotech industry, airports and air transportation, nuclear and chemical plants), cannot be rationally controlled and the need for a new paradigm to address these critical issues is clearly expressed by competent bodies.

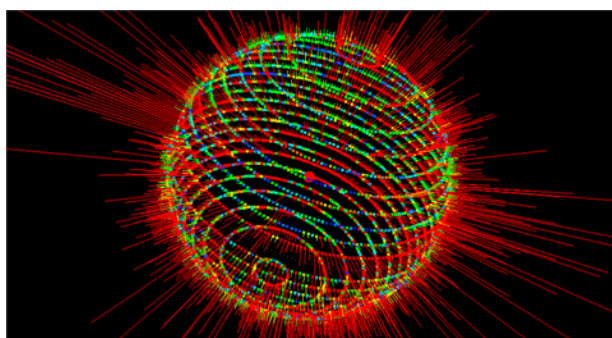
Kernelis Resilience gives a resolutely new approach, based on a robust scientific model, to allow an objective management of the organizational strategies. The strategies evaluated by Kernelis Resilience are not treated on a sole defensive

perspective, as it is the case with traditional risk and resilience management. Kernelis Resilience also aims at reinforcing the organizational structure by a better assignment of the available resources and the determination of the most adapted strategies. Kernelis Resilience makes it possible to minimize the efforts (expressed in the terms of the costs and the constraints) for an optimal performance of the organization.

**Kernelis Resilience provides a rational approach that aims at enhancing a comprehensive and holistic management by knowledge for a controlled organizational and business development.**

## Kernelis Resilience Method

The method of Kernelis Resilience considers that an organization is a physical entity (the System) able to evolve and to change under the action of an external and permanently existing Forces Field. Under the action of the Forces Field, the System acquires energy of destabilization and is thus modified from its "at rest" configuration. If nothing comes to destabilize the System, it remains in its activated state, but it is still vulnerable. If the destabilization occurs, the acquired energy will be released in the System and if this energy exceeds the organizational resilience, the System would then be at risk of becoming uncontrollable and irreparable damages would be yielded.



Representation of an organizational System destabilized by a Forces Field

Hence, with Kernelis Resilience, we propose the following definitions:

### Risk

Quantity of destabilizing energy stored in a System and that can be released (suddenly or silently) if activated

### Resilience

Capacity of an organization to absorb the released energy without irreversible damage to its essential (vital) assets

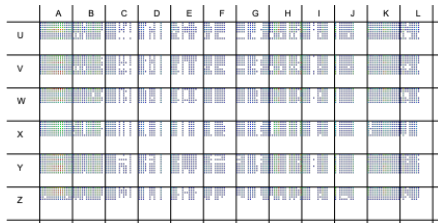
### Reinforcement

Increasing the organizational resilience by a controlled reduction of risk

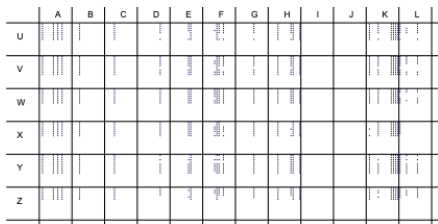
The System is independently parametrized by the end-user (the client of Kernelis Resilience) to be perfectly aligned with the precise characteristics of the organization and with its domain of activity.



To be reinforced, the organization implements an action plan (or OAP). This OAP consists in a documentary package and aims at protecting the System from the effects of the Forces Field and thus reducing the level of energy of destabilization.



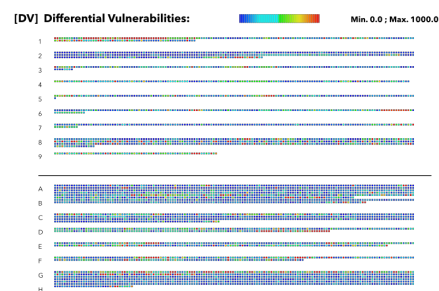
2D Representation of a [FF] in configuration A



2D Representation of a [FF] in configuration B. This configuration is a linear combination of the configuration A with the implementation of the [OAP].

However, the implementation of the OAP may require substantial efforts from the organization. Hence, if irrelevantly attributed, these efforts could even degrade the resilience capacity (for example with an excessive allocation of resources to the prevention of noncritical issues) and they would thus be counter-productive. To avoid such a situation, Kernelis Resilience can evaluate, both retrospectively and prospectively, the performance of the OAP. The anticipated outcome of the submitted OAP is then compared to the quantity of efforts required by its implementation. Kernelis Resilience can thus assess multiple strategic options before their effective implementation.

Kernelis Resilience analyzes the Space of the Differential Vulnerabilities [FD] and the Profiles of Forces [FP] for a given organizational configuration. The relevance of the OAP is automatically evaluated by Kernelis Resilience using its module of extraction and indexation of the linguistic descriptors. The different options are compared. The efforts, expressed in the dimensions of cost and constraint, needing to be in priority brought by the organization in order to stabilize the System are highlighted and listed.



***“The end-user always keeps the hand on the control of his organizational strategy”***

The end-user can however decide to define another type of remediation, to preferentially address the assets that he has determined as vital for his organization. Thus, the end-user always keeps the hand on the control of his organizational strategy.

The objective is then to move the organizational configuration from a high energy situation towards another of lower energy while minimizing the efforts needed for tending towards this objective. Each computed configuration can be automatically analyzed by Kernelis Resilience. Results and reinforcement proposals are clearly presented and illustrated in a formal report.

If more information is needed, please email [info@kernelis.com](mailto:info@kernelis.com)