Kepstrum

MAP YOUR PRODUCT DNA

DESIGN LIMIT NATURE OF FAILURE ACTUAL LIFE

IRM – INTELLIGENT RELIABILITY METHODOLOGY

DSP – DNA STRUCTURED PLATFORM

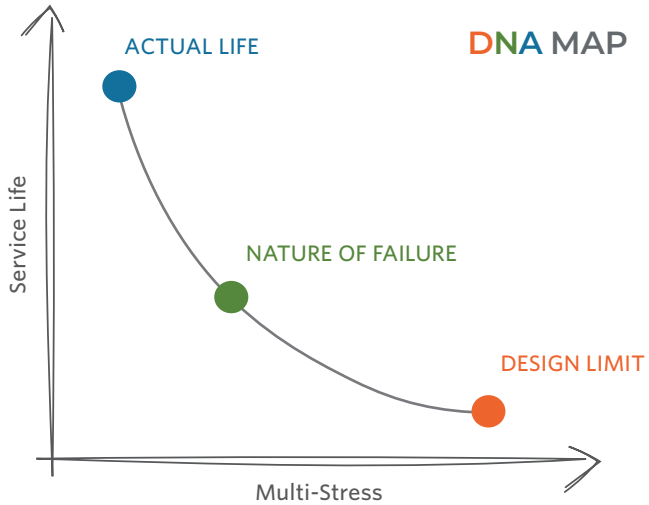
WE ARE HERE TO
CHALLENGE THE STATUS QUO

WHO WE ARE ...

A company with a development process focused on protecting new products and platforms against recalls and undefined field failures, while shortening Design-to-Market and qualification time.

WHAT ARE WE OFFERING?

Intelligent Reliability Methodology (IRM) to Map the Product DNA. A methodology to enhance the commonly practised concept of "test to pass" with "test to map" by predicting Stress-Life Models (DNA MAP).



PRODUCT DNA – A POWERFUL INDEX

Creating a robust connection between development and field, preventing costly recalls. It is a measurable, repeatable, and traceable index for new developments without historical information.

HOW IS IT IMPLEMENTED?

Using DNA Structured Platform (DSP) for in-project guidance and monitoring. DSP is a computer aided implementation of IRM, a disciplined step-by-step approach under one interactive, multi-user, and multi-project software platform.

HOW DO WE REDUCE RISK?

By generating knowledge, transparency and connectivity.

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Kepstrum Philosophy:

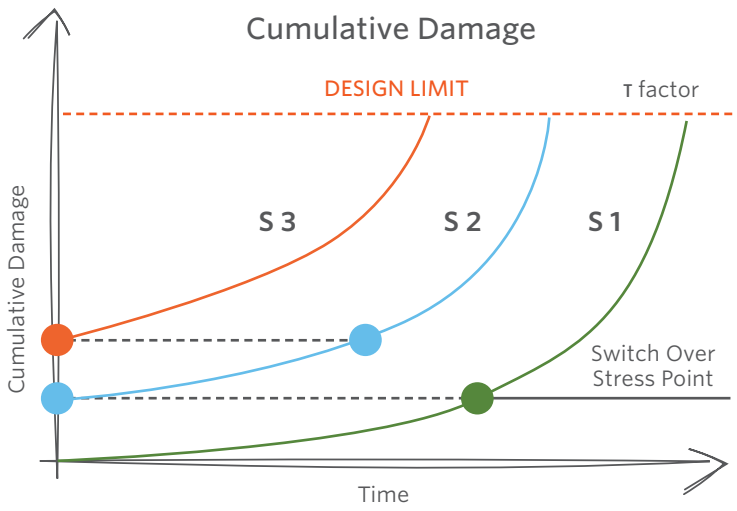
FAILURE MODES ARE INFINITE, STRESSES ARE FINITE

IRM AT A GLANCE

IRM is a systematic and knowledge-based process to predict the product life for a specific environment. It reveals product weaknesses and suggests design solutions in the early stages of development and prototyping.

FMEA, a conventional approach to reliability, begins by investigating all possible failure modes to assess the risks based on experience. **IRM** begins by identifying stresses to accurately predict failure modes.

IRM brings design engineers and FMEA specialists together. **DSP** allows engineers from different backgrounds to visualize product requirements through a common platform. It connects R&D, Production, and Field during the product life cycle.



ADVANTAGES TO CONVENTIONAL QUALIFICATION METHODS

- More effective utilization of measurement & test resources:
  The DNA Map integrates all the elaborated knowledge and creates a synergy among qualification tests, calculations, stress limit tests and analysis of field returns, making it accessible through one database.
- Every piece of information is systematically processed to identify the stress limits and safety margins, supporting effective Design-to-Cost initiatives.
- Faster Design-to-Market:
  Cumulative damage technique is applied to combine several life tests "to pass" into one life test "to map" using progressive cycles.
- Visualization and control of complex multi-stress models.

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The Promise:

IRM IS ACCOUNTABLE TO GENERATE RESULTS, SETTING US APART FROM CONVENTIONAL METHODS

KEPSTRUM DIRECTOR

Payman Kianpour, MSc, MEng, PEng

The inventor and patent holder of Intelligent Reliability Methodology (IRM) and risk reduction technologies to Map the Product DNA. He leads the field of deterministic reliability and its integration with engineering design of hydrotronic, electronic and mechatronic components.

By introducing the concept of Product DNA into advanced engineering, he revolutionized the design and qualification of new developments without history.

OUR COLLABORATORS

Reputable OEMs and Tier Suppliers in Automotive, Aerospace, and Industrial sectors.

Forward-thinkers who strive to go beyond the limits of what is possible with the existing methods. Creative engineers who thrive to develop new products and platforms, generating new revenue streams using **IRM.**

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