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Intelligent diagnostics at ESI

Maximizing productivity of high-tech systems

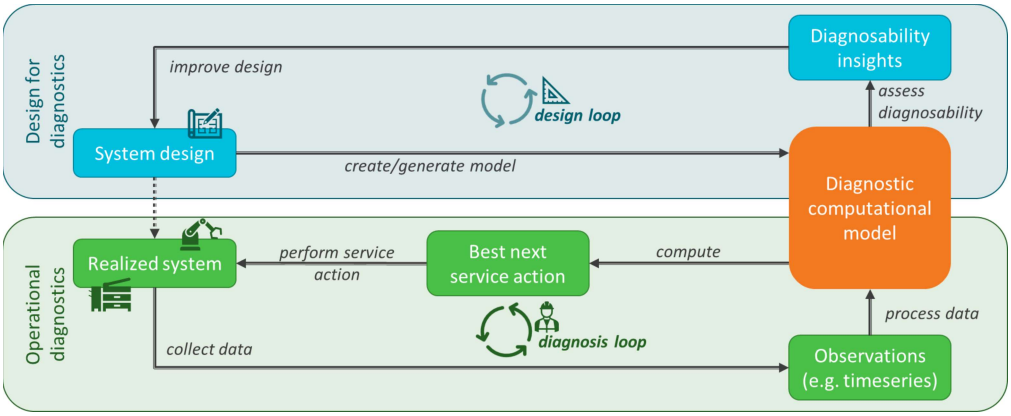
Society and market demand an ever-increasing level of operational performance from high-tech industrial systems: they must always operate at their best and any down-time must be minimized. Efficient and first-time right diagnostics have therefore become a target for many high-tech system developers. In the past years, ESI has developed a methodology, together with its partners, that helps them to improve system's uptime by enabling future-proof diagnostics.

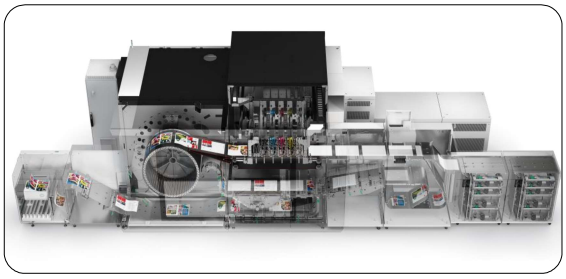
Diagnostic support through the full lifecycle of a system

ESI developed a model-based diagnostic methodology which brings together system engineering and AI techniques to support:

- ✓ design engineers in assessing the diagnosability of a new system during its development
  - ➢ placement of diagnostic sensors and generation of diagnostic procedures
- ✓ service engineers in diagnosing a system down time
  - ➢ iterative selection of best service action for a guided root cause analysis.

The methodology has been successfully applied at several industrial partners and new capabilities are being added to the approach.





CareFree diagnostics of an industrial printer

In collaboration with Canon Production Printing, ESI supports service engineers in diagnosing problems in an industrial printer.

We built a prototype diagnoser that uses data from a printer in the field to infer the most likely failing components.

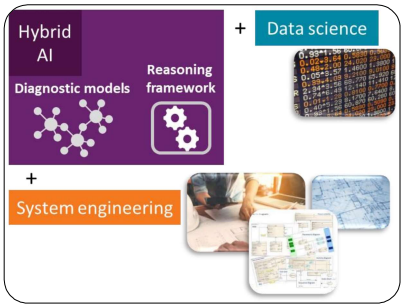
An interactive user interface suggests the next best test to execute on the system guiding the service engineer through the root cause analysis.

Designed to fit all systems

Sharing knowledge across industrial partners is a strength of ESI.

The methodology developed at Canon builds on diagnostic knowledge ESI gained during multiyear projects at Thales and ASML.

In the CareFree project this knowledge has been extended, resulting in a general methodology that can be applied to other industrial system.



Partners:

ASML Canon CANON PRODUCTION PRINTING

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