More efficient maintenance

From plant design & engineering over commissioning to maintenance: keep your documentation consistent

Endress+Hauser
People for Process Automation

Plant Design & Engineering

In the engineering phase, **a digital twin is created of every asset**, even before the physical asset is produced. Engineering documents, like spec sheets, manuals, etc... are linked to the corresponding digital twin. In this way, **a document trail is started** which can be used in all further phases of the project.

All digital twins are subsequently stored together in **a central cloud-based library**, easily accessible and always up-to-date, and will eventually be connected to their corresponding "physical" counterparts. This centralization of all relevant documentation avoids a continuous transfer of incomplete or even incorrect information, as the project develops through it's phases.

key questions

- What is the purpose of the process you are designing?
  Why do you design it in the way that you do?
- What is the exact role of each of the assets in your process?
  Instrumentation assets should primarily measure, of course... but what other data can they provide?
- Which assets in the process are critical for your production process and for your success?
  There are multiple considerations: production, quality, safety, environmental....
- How do you balance between production, quality, safety and maintenance?
- How will you monitor the performance of your processes and assets?
- How will you maintain the health, the fitness of your processes and assets?
- And how will you prove the "fitness for purpose" of your assets?
- How wil you be tracing and documenting this?
- What should be done when you have a non-conformity?
  And how will you handle audits?
- How will you organize your staffand their work-instructions?
  What about the knowledge level of your technical staff?
- How will you organize and manage spare parts on a continuous basis?
- How do you avoid unforeseen downtime?

Agile commissioning…
and smart hand-over of project documentation

By applying **a smart, agile commissioning workprocess**, supported by **a universal mobile maintenance tool**, you easily access and use the information generated during engineering. In this way, you achieve **significant time savings and risk reductions** because the right decisions were made during engineering and are – well-documented and easily – available to you. This results in up to 30% shorter commissioning times compared to a conventional approach.

A faster time-to-production means **a faster time-to-market and earlier revenues**!

During commissioning, the document trail of each of the assets is enriched with parameter setting reports, verification and loop-test reports, etc… as they are being generated on-site! All this information is immediately and in an online fashion, automatically attached to the digital twin of each and every asset. In this way, you achieve a smart & clean hand-over of project documentation to the Maintenace and Asset Management teams.

Optimized and Efficient Maintenance

Even performant condition-based maintenance strategies, will evolve by integrating easily and fast-connected remote support techniques, into predictive reliability.

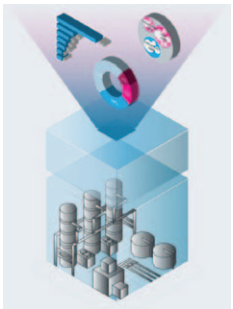
Analytics Framework based on LNS Research

Continuous **improvement of maintenance workprocesses** and **optimization of calibrations and their intervals**, reduce your maintenance costs and workload. It also mitigates your risks, and you are "**audit-ready**", 24 hours a day, 7 days a week!

Solution

1
Digitize documentation to ease workflows

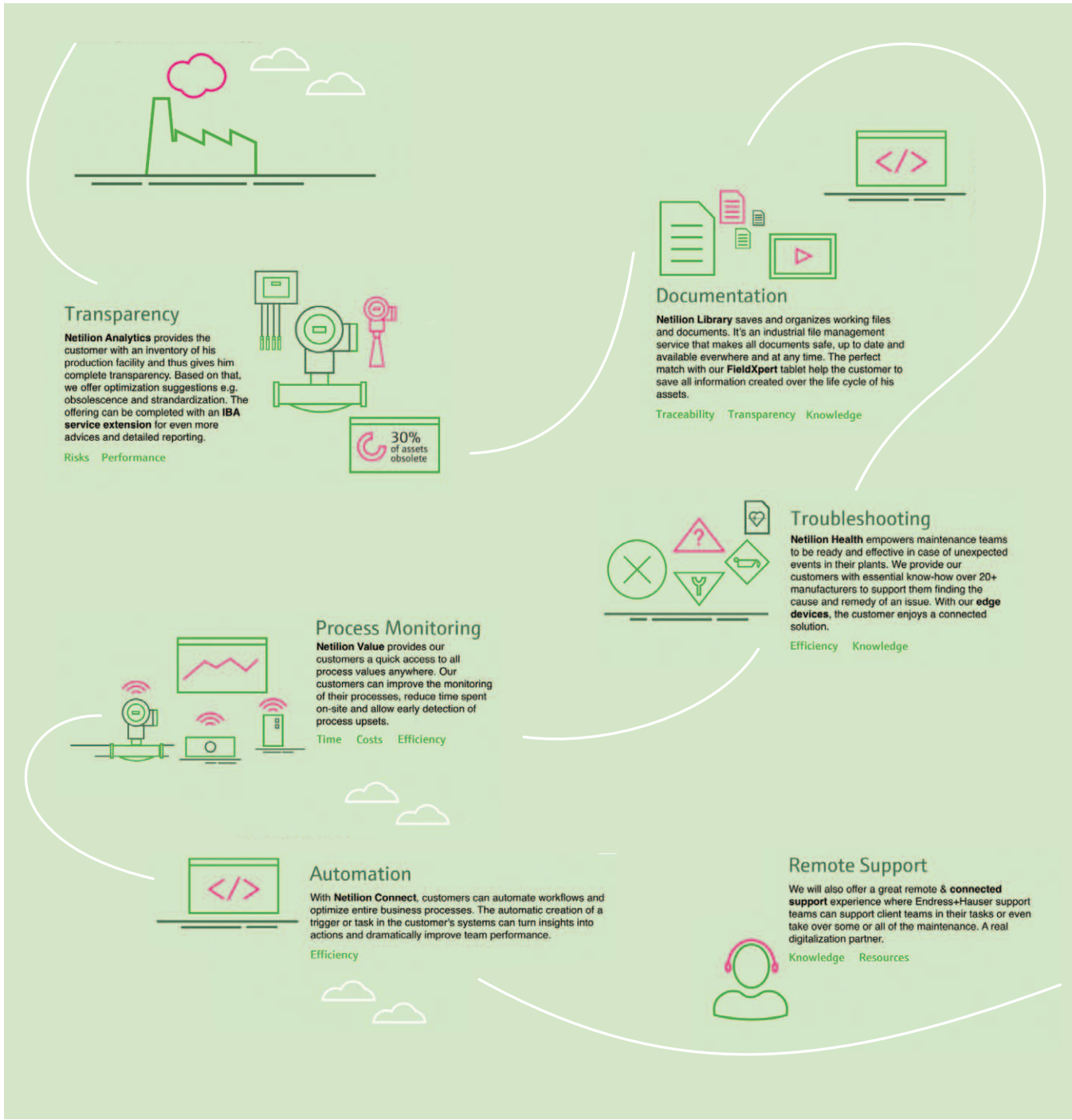
2
Reduce unplanned shutdowns with health monitoring



3
Increase availability with asset transparency

Digitalization Journey

The following digitalization journey shows how we can accompany a customer on his journey into digitalization, support him with innovative solutions to gain efficiency and thus, thanks to **Netilion**, become a significant building block In his digitalization strategy.



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