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Technical Debt in Industry

Success Stories
Example Cases

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Research Approach

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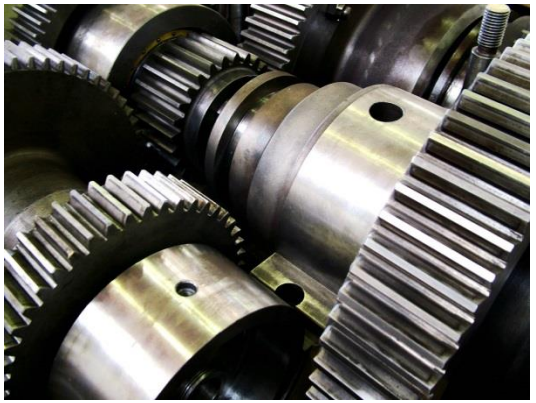
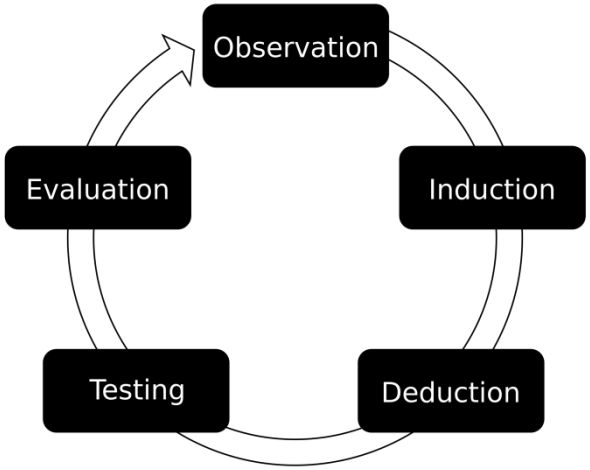
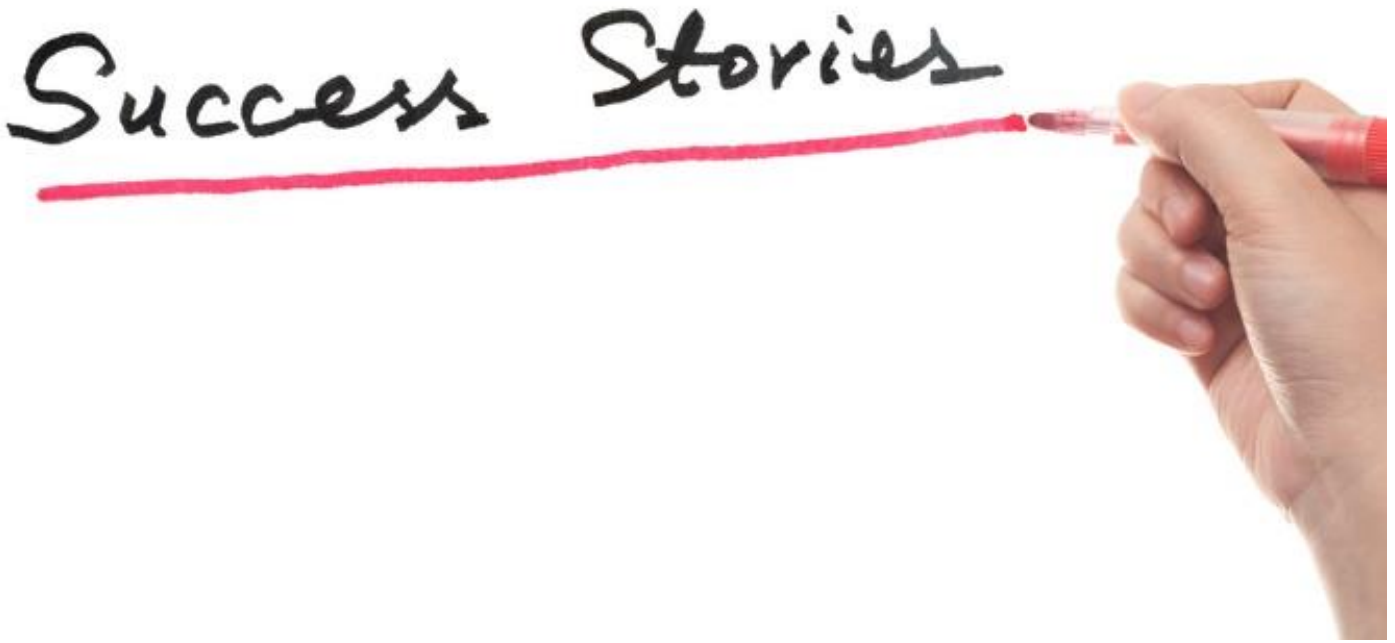




Industry-Driven Research

Solving real problems…

Are the proposed solutions realistic?


Success Stories

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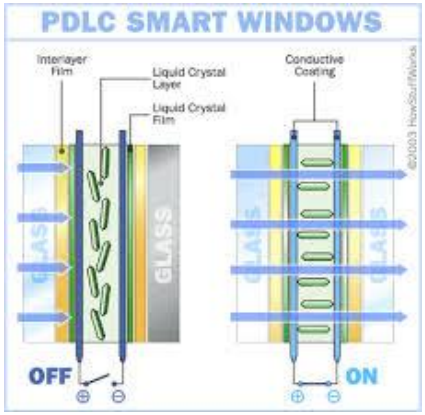
Research in Industry

Other Obstacles?

Why not just resolve TD?

What really happens?



Infinica and ***Internorm*** will deal with the "*Window Status Sensor*", the "*Weather Sensing*", the "*Window Data*", and the "*Window Data Aggregator*" components, and the "*Smart Window*" application. The expected lifetime of the aforementioned components and applications is between 10 – 20 years, so their easy extension and maintenance is crucial to the companies. Based on the current knowledge on the quality key-drivers for these components and applications, functional suitability, reliability and performance should be kept at the highest level, while managing technical debt.

What really happens?

Océ will deal with the "*Printing Data Path (PDM)*" component, which is already in use from the company for almost ten years, and its expected lifetime is 5 additional years. PDM is a high reusable component that needs to be adapted to different printers' hardware. Compared to the previous years, Océ is interested in putting extra effort in repaying technical debt related to testing, documentation, and design. At the same point, the functional suitability, reliability and performance of PDM are not negotiable for Océ.

What really happens?

ERICSSON

Ericsson will work on a *telecom* component that is already in use for 50 releases and is expected to be maintained for approximately 30 more years. For Ericsson, compatibility, functional suitability, and reliability are having the highest priority so far. The major challenges that the company faces while repaying TD are: (a) the prioritization of feature development before repaying debt, and (b) the late findings organized with trouble report, disturbs smooth planning. Their work will focus on testing and architecture TD.

What really happens?

Nokia Siemens Networks

Nokia is interested in working with feature predictability of *telecom* components. The features are first specified, then implemented, delivered and maintained. If the quality of the feature is compromised, there will be more error reports, testing of corrections, and expensive maintenance tasks. Thus, technical debt will lead to increased maintenance costs. They are mostly interested in working with testing and architectural TD. In addition, Nokia will effectively participate in the method definition so as to maximize the applicability of the results in Nokia processes. Therefore, Nokia will not only participate in the project as a case provider, but will also bring in an industrial viewpoint by reviewing the intermediate results of the research packages. Finally, Nokia also intends to integrate results to its internal toolchain, but since tool development will be subcontracted from a local SME, the integration work will also be subcontracted.

What really happens?

DELPHI

Delphi will work on an automotive component that has already been released 30 times from 2013, and therefore is in need of intense maintenance activities. The expected lifespan for this component is 15 more years. While developing and maintaining this component, Delphi is interested in ensuring functional suitability, reliability, and security. The company is interested in working on feature coverage testing, pass rates of test cases, and prioritization of features during development.

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Thank you for your attention